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SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 3 IN SET 161.

Coronado Television Receiver Models 15TV1-43-8958A, 43-9020A and 43-9021A were covered in Photofact Folder 3 in Set 161.

When the letter "B" is used as the suffix to the Model number, the receivers are identical to the "A" version except for a different alignment procedure and component changes noted below.

R25 was changed to 4700Ω
R28 was changed to 8200Ω
R31 was changed to 4700Ω
R33 was changed to 18KΩ

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from thd chassis. Do not remove the horizontal oscillator to disable the high voltage.

VIDEO IF ALIGNMENT

The sets with models numbers ending in "B" have a different alignment than the sets with numbers ending in "A".
This table is for the "B" versions.
Tune to a channel which causes no interference. To check for interference turn the tuning control slightly , if the VTVM reading changes tune to another position.
Turn the contrast control to maximum clockwise.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over converter tube, (V12). Low side to chassis.	26.4MC (unmod)	See note above.	DC probe to point A . Common to chassis.	A1, A2	Adjust for maximum deflection. Attenuate signal gen. to maintain 1 volt reading.
2.	"	"	23.4MC	"	"	A3, A4	"
3.	"	"	25MC	"	"	A5	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
Tune to a position which causes no interference. To check for interference turn the tuning control slightly , if the response curve changes tune to another position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	Direct	High side to an ungrounded tube shield floating over converter tube, (V2). Low side to chassis.	25MC (10MC Swp)	23MC	See note above.	Vert. Amp. thru 10KΩ to point A . Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5.	.001MFD	High side to point A . Low side to chassis.	4.5MC (unmod)	Any channel not used locally.	DC probe to point B . Common to chassis.	A6, A7	Adjust for max. deflection.
6.	"	"	"	"	DC probe to point C . Common to point D .	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.
Short antenna terminals.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	.001MFD	High side to point A . Low sid e to chassis.	4.5MC (450KC Swp)	4.5MC	Any channel not used locally.	Vert. Amp. to point B . Low side to chassis.	A6, A7	Disconnect stabilizor capacitor C8. Adjust for maximum amplitude and symmetry as per fig. 2.
6.	"	"	"	"	"	Vert. Amp. to point C . Common to chassis.	A8	Reconnect capacitor C8. Adjust so 4.5MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A7 for maximum amplitude and straightness of crossover lines.

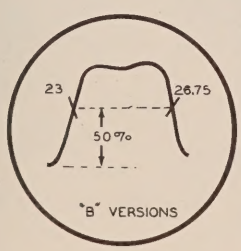

FIG. 1

FIG. 2

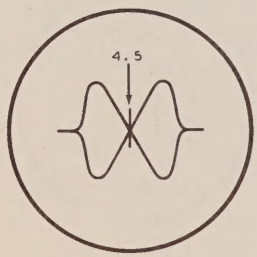

FIG. 3

PRODUCTION CHANGES
BULLETIN 34

CORONADO MODELS 15TV1-43-8958B, 15TV1-43-9020B, 15TV1-43-9021B

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TUNER ALIGNMENT

Pre-set the trimmer screws as shown in fig. 5. Turn the core carriage bar to the extreme top of its stroke with the band switch in low band position.
Adjust all cores so that the cores extend 1.6 inches above the coil mounting clip.
Turn the low band oscillator coil, (L11), core an additional 4 turns out of the coil.
It should be noted that the RF response curve for sets having model numbers ending in "B" has a different shape than curves for the "A" version.
Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

LOW BAND ALIGNMENT

If trimmer A10 reaches maximum capacity and more capacity is needed, turn the core of L8 into the coil.

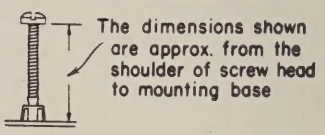
	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Two 120Ω carbon resistors.	Across antenna terminals with 120Ω in each lead.	85MC (10MC Swp)	83.25MC 87.75MC	6	Vert. Amp. thru 10KΩ to point A. Low side to chassis.	A9, A10 A11	Adjust for maximum amplitude of response.
8.	"	"	"	"	"	"	A12	Adjust to place video marker at 50% on response curve as shown in fig. 4.
9.	"	"	63MC (10MC Swp)	61.25MC 65.75MC	3	"		Adjust tuning control to place video marker at 50% on response curve for each channel. If necessary retouch A10 and A11 for compromise which gives best overall response across the low band channels.
			69MC (10MC Swp)	67.25MC 71.75MC	4			
			79MC (10MC Swp)	77.25MC 81.75MC	5			
			57MC (10MC Swp)	55.25MC 59.75MC	2			

HIGH BAND ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
10.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ to point A. Low side to chassis.	A13, A14 A15	Adjust for maximum amplitude of response.
11.	"	"	"	"	"	"	A16	Adjust to place video marker at 50% on response curve as shown in fig. 4.
12.	"	"	207MC (10MC Swp)	205.25MC 209.75MC	12	"		Adjust tuning control until marker appears at 50% on response curve on each channel. If necessary retouch A14 and A15 for compromise which gives best overall response across the high band channels.
			201MC (10MC Swp)	199.25MC 203.75MC	11			
			195MC (10MC Swp)	193.25MC 197.75MC	10			
			189MC (10MC Swp)	187.25MC 191.75MC	9			
			183MC (10MC Swp)	181.25MC 185.75MC	8			
			177MC (10MC Swp)	175.25MC 179.79MC	7			

4.5MC TRAP ADJUSTMENT

After alignment is completed and set restored to original operation, connect an antenna and tune in a strong station.
Adjust the tuning control until sound bars just begin to appear in the picture.
Adjust the trap core, (A17), until any evidence of 4.5MC interference, (grain appearance in horizontal lines) is eliminated.



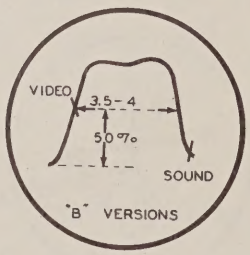


FIG. 4

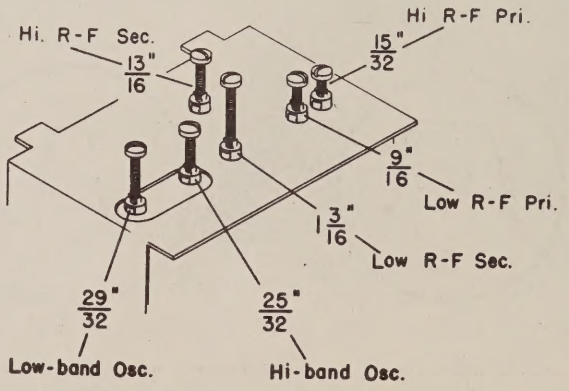


FIG. 5

PHOTOFACT* Folder

*TRADE MARK

AMBASSADOR MODELS 14MC, MT, 16MC, MT, MXC, MXCS, MXT, MXTS, 17MC, MT, MXC, MXCS, MXT, MXTS

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DATE 3-52 SET 162 FOLDER 2

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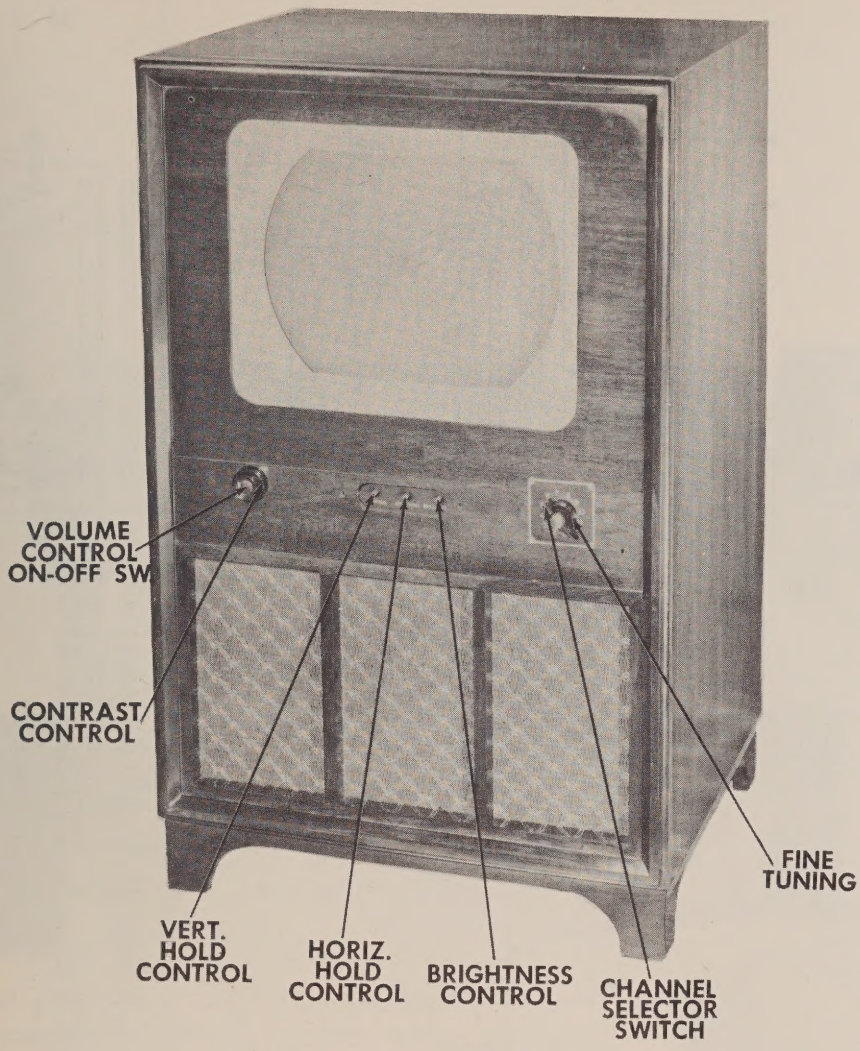

AMBASSADOR MODELS 14MC, MT, 16MC, MT, MXC, MXCS, MXT, MXTS, 17MC, MT, MXC, MXCS, MXT, MXTS

TRADE NAME	Ambassador models 14MC, MT, 16MC, MT, MXC, MXCS, MXT, MXTS, 17MC, MT, MXC, MXCS, MXT, MXTS
SUPPLIER	Allied Pur. Corp., 401 5th Ave., New York 16, N.Y.
TYPE SET	Television Receiver
TUBES	Twenty or Twenty One
POWER SUPPLY	110-120 Volts AC-60 Cycle
RATING	1.65 Amp. at 117 Volts AC
TUNING RANGE	Channels 2 thru 13

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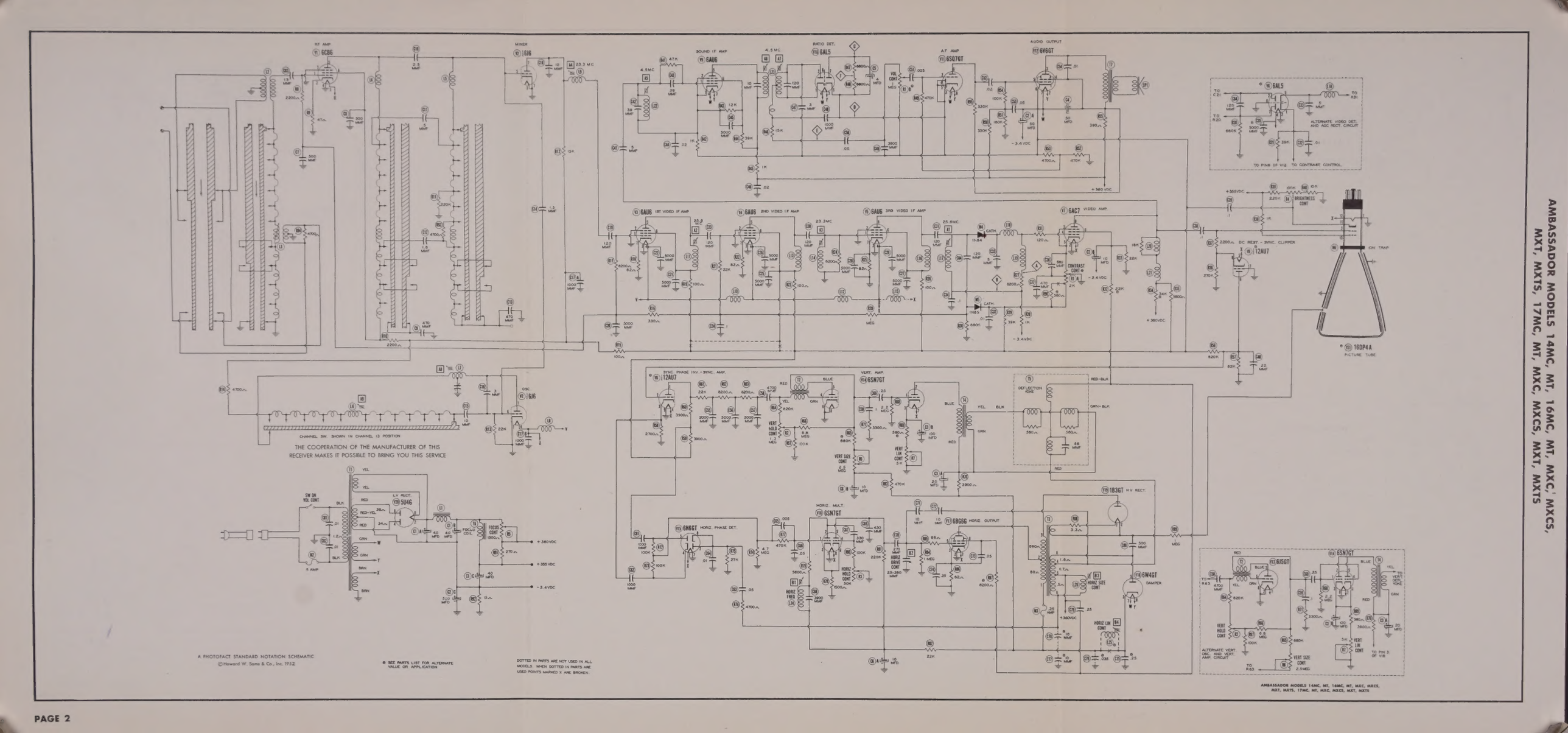
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RF AMP
MIXER
OSC.
BOUND IF AMP
RATIO DET.
AF AMP
AUDIO OUTPUT
1ST VIDEO IF AMP
2ND VIDEO IF AMP
3RD VIDEO IF AMP
VIDEO AMP.
SYNC. PHASE INV. - SYNC. AMP.
VERT. AMP.
HORIZ. MULT.
HORIZ. PHASE DET.
HORIZ. OUTPUT
H.V. RECT.
DAMPER
DEFLECTION YOKE
ION TRAP
PICTURE TUBE
CHANNEL SW. SHOWN IN CHANNEL 13 POSITION
ALTERNATE VIDEO DET. AND AGC RECT. CIRCUIT
ALTERNATE VERT. OSC. AND VERT. AMP. CIRCUIT
AMBASSADOR MODELS 14MC, MT, 16MC, MT, MXC, MXCS, MXT, MXTS, 17MC, MT, MXC, MXCS, MXT, MXTS

CHASSIS TOP VIEW

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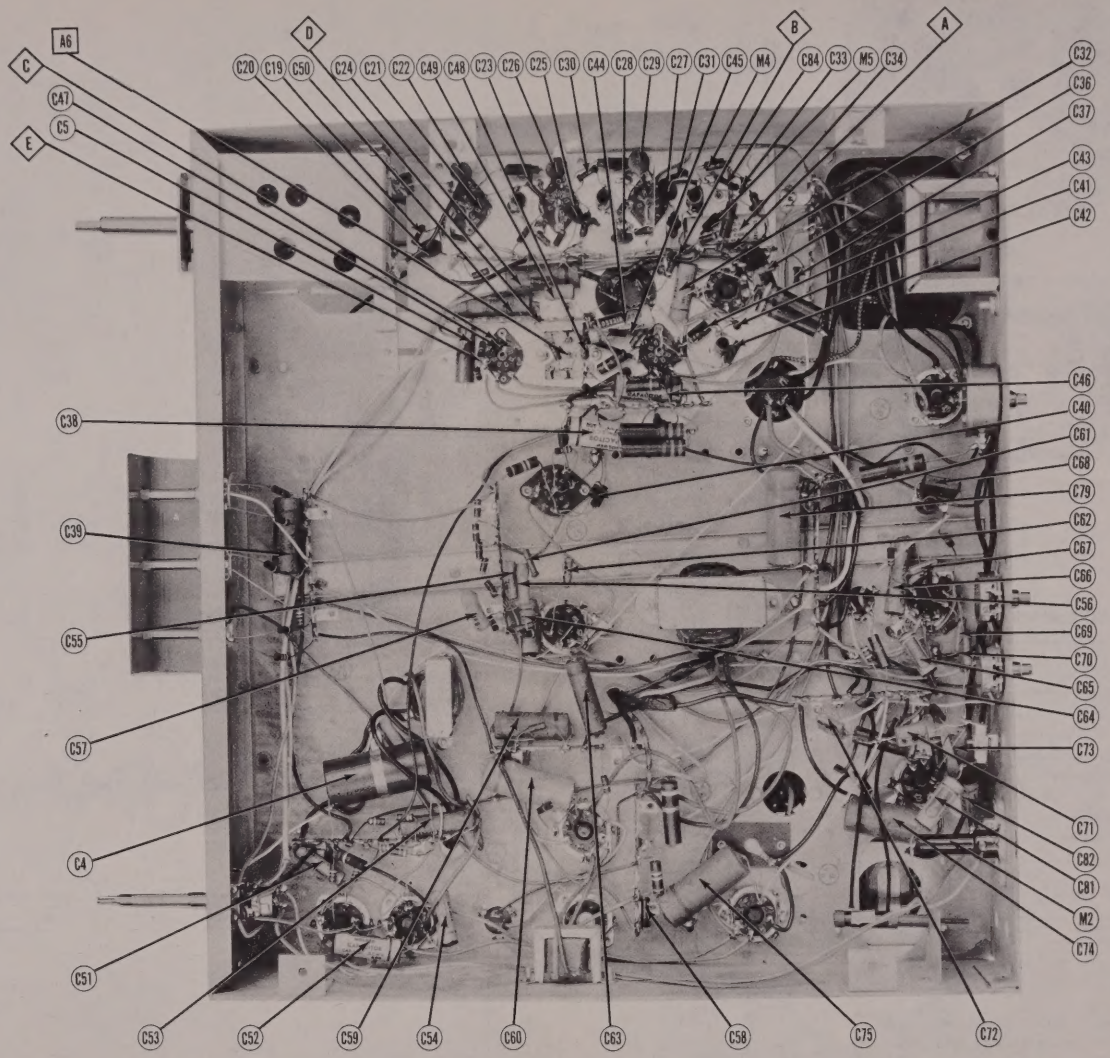

CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

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TUBE PLACEMENT CHART

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage shock hazard may be eliminated by removing the horizontal oscillator tube (V16) from its socket.

VIDEO IF ALIGNMENT

During video IF alignment the common lead of the VTVM is connected to approximately 2.5 volts negative with respect to chassis. Avoid grounding the VTVM case.

Remove the converter tube (V2) from its socket and replace it with a 6J6 which has pin 1 removed, to prevent erroneous indications from the local oscillator.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	25.6MC (Unmod.)	Any	DC Probe to Point (A). Common to Point (B).	A1, A2	Adjust for maximum deflection.
2.	Direct	"	23.3MC	"	"	A3, A4	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscillscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Direct	High side to ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	25MC (10MC SWP)	21.6MC 23.3MC 25.6MC 26.1MC	Any	Vert. Amp. to Point (A). Low side to chassis.		Check for response curve similar to figure 1 with markers as shown. If necessary retouch A1 thru A4 for optimum response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

During sound IF alignment the common lead of the VTVM is connected to approximately 130 volts negative with respect to chassis. Avoid touching or grounding the VTVM case.

Turn the contrast control to maximum clockwise.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4.	.01MFD	High side to pin 4 (Grid) of 6AC7 (V7). Low side to chassis.	4.5MC (Unmod.)	Any	DC Probe to Point (C). Common to Point (D).	A5, A6	Adjust for maximum deflection.
5.	.01MFD	"	"	"	DC Probe to Point (E). Common to Point (F).	A7	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated with 60 ∿ modulation and 450KC sweep. Use 120 ∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	.01MFD	High side to pin 4 (Grid) of 6AC7 (V7). Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any	Vert. Amp. to Point (C). Low side to chassis.	A5, A6	Disconnect stabilizer capacitor C5. Adjust for maximum amplitude and symmetry as per figure 2.
5.	.01MFD	"	"	"	"	Vert. Amp. to Point (D). Low side to chassis.	A7	Reconnect capacitor C5. Adjust A7 so 4.5MC occurs at center of crossover lines as per figure 3. SLIGHTLY retouch A6 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.
Set the fine tuning control to the mid-position of its range.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6.	Two 150Ω carbon res.	Across antenna terminals with 150Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. Amp. to Point (A). Low side to chassis.	A8	Adjust to place the sound marker as shown in figure 4. The video marker should be at 50%.
7.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6	"	A9	"
8.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12	"		Check all high band channels to see that the sound marker can be properly placed well within the range of the fine tuning control. If not, a compromise adjustment of A8 may be required. If A8 is changed, recheck all high band channels.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
9.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5	"		Check all low band channels to see that the sound marker can be properly placed well within the range of the fine tuning control. If not, a compromise adjustment of A9 may be required. If A9 is changed recheck all low band channels.
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

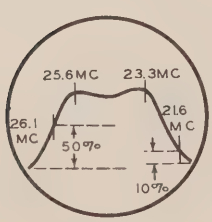


FIG. 1

FIG. 2

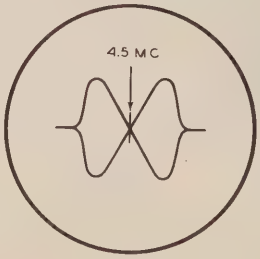


FIG. 3

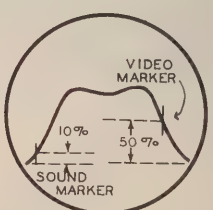
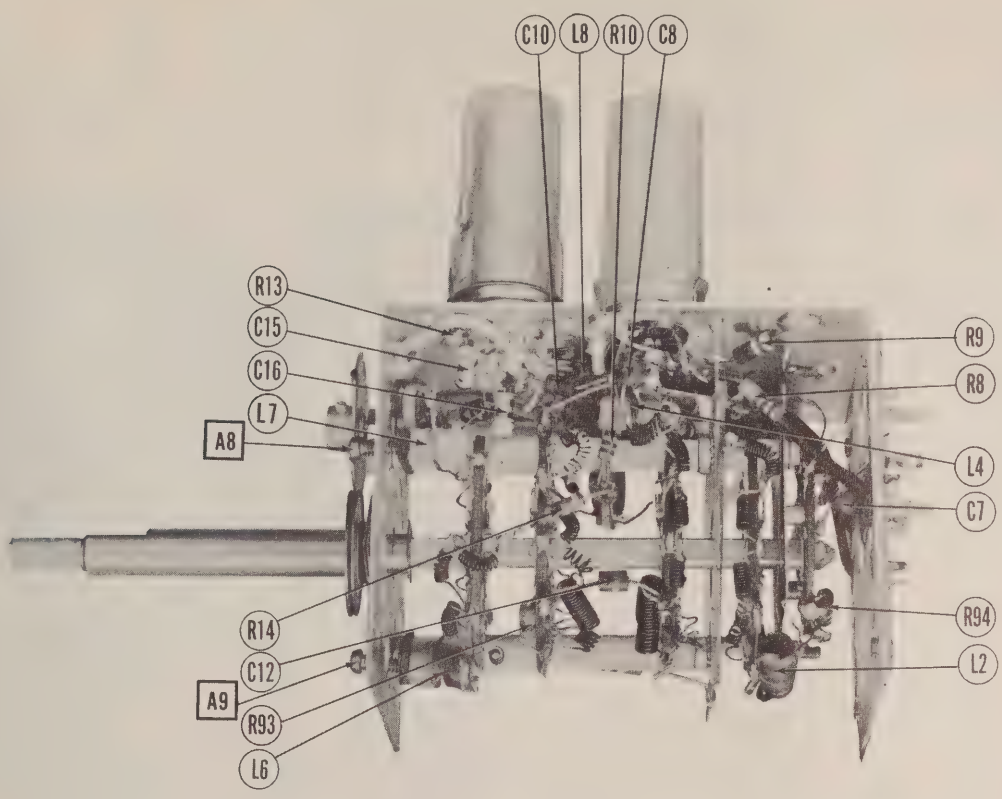
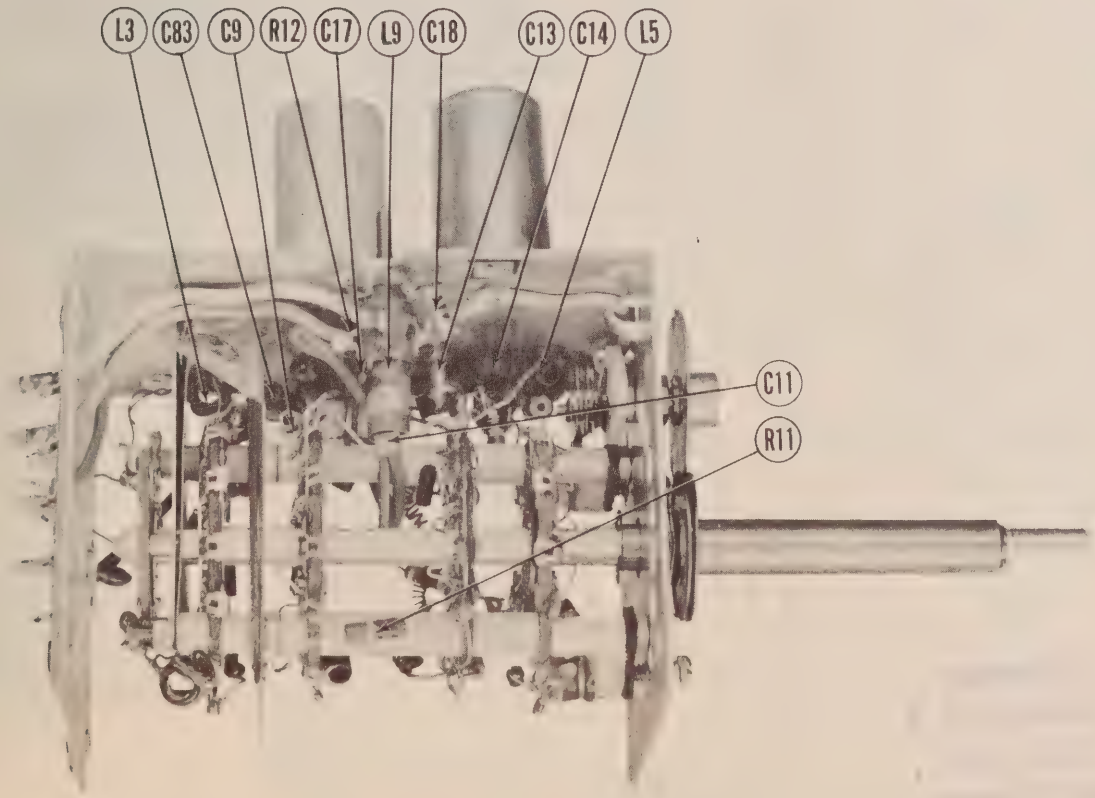


FIG. 4



RF TUNER-RIGHT SIDE



RF TUNER-LEFT SIDE

VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	-.2VDC	.6VDC	6.3VAC	0V.	90VDC	90VDC	0V.		
V 2	6J6	105VDC	85VDC	0V.	6.3VAC	-1.2VDC	§-4.7VDC	0V.		
V 3	6AU6	-.2VDC	0V.	0V.	6.3VAC	120VDC	120VDC	1VDC		
V 4	6AU6	-.2VDC	0V.	0V.	6.3VAC	120VDC	120VDC	1VDC		
V 5	6AU6	0V.	0V.	0V.	6.3VAC	125VDC	125VDC	1VDC		
V 6	6AL5	Not used in all models.								
V 7	6AC7	0V.	0V.	1.3VDC	3.2VDC	1.3VDC	170VDC	6.3VAC	160VDC	
V 8	12AU7	85VDC	9.6VDC	14VDC	6.3VAC	6.3VAC	9.6VDC	0V.	1.4VDC	0V.
V 9	6AU6	#5.7VDC	#8.5VDC	#6.3VAC	#0V.	#210VDC	#55VDC	#8.5VDC		
V 10	6AL5	#-.6VDC	#-.6VDC	#6.3VAC	#0V.	#0V.	0V.	#-1.1VDC		
V 11	6SQ7GT	0V.	#-1.2VDC	#0V.	#0V.	#0V	#110VDC	#0V	#6.3VAC	
V 12	6V6GT	0V.	#6.3VAC	#185VDC	#200VDC	#-7.5VDC	0V.	#0V.	#0V.	
V 13	6J5GT	Not used in all models.								
V 14	6SN7GT	0V.	380VDC	22VDC 9VDC	-6VDC	180VDC 85VDC	0V.	6.3VAC	0V.	
V 15	6H6GT	0V.	6.3VAC	0V.	2VDC	-2VDC	2VDC	0V.	0V.	
V 16	6SN7GT	.3VDC	220VDC	10VDC	-7.8VDC	125VDC	10VDC	0V.	6.3VAC	
V 17	6BG6G	0V.	0V.	11VDC	0V.	-2.2VDC	0V.	6.3VAC	275VDC	TOP CAP *
V 18	6W4GT	0V.	0V.	410VDC	0V.	350VDC	0V.	#0V.	#6.3VAC	
V 19	1B3GT	* DO NOT MEASURE.								
V 20	5U4G	0V.	390VDC	0V.	360VAC	0V.	360VAC	0V.	390VDC	
V 21	16DP4A	0V.	1.4VDC	PIN 10 350VDC	PIN 11 115VDC	PIN 12 6.3VAC				

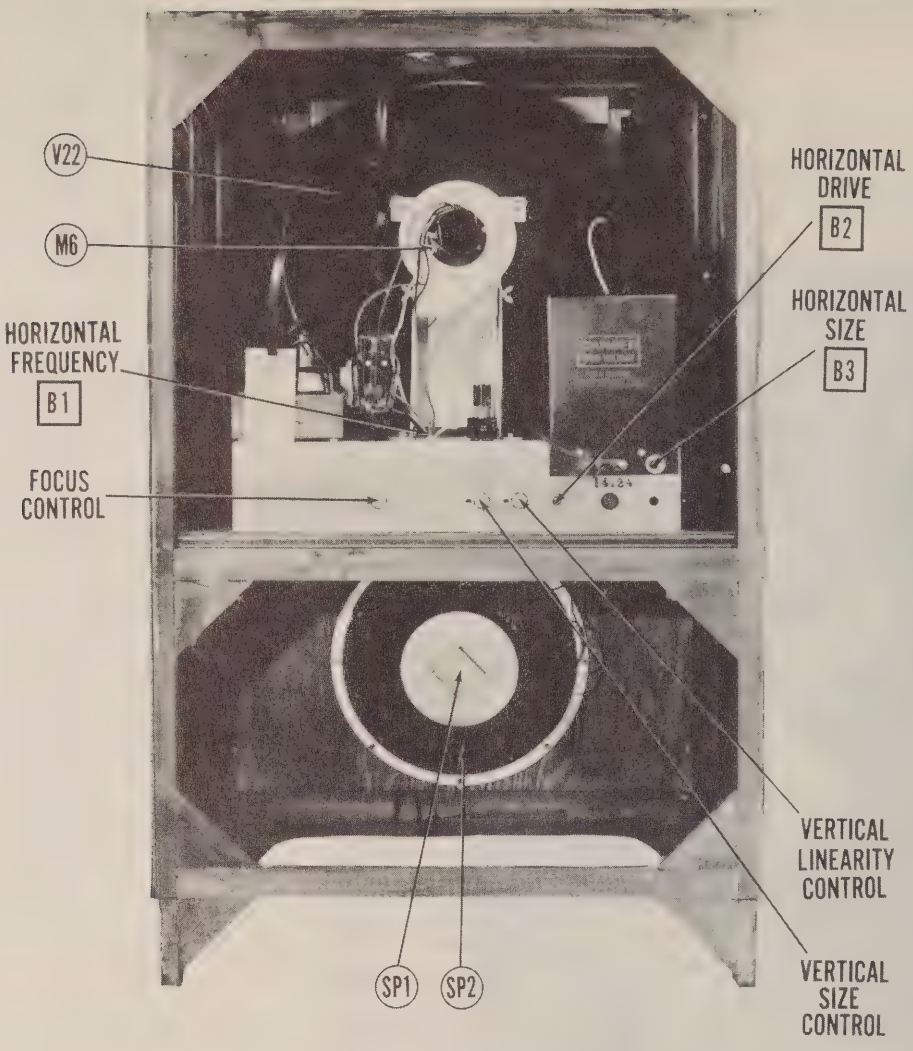
FOCUS CONTROL SET FULLY COUNTER-CLOCKWISE.
§ TAKEN WITH VACUUM TUBE VOLTMETER.
# MEASURED FROM PIN 8 OF V12.
* DO NOT MEASURE.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	1.7 Meg.	47Ω	.1Ω	0Ω	#2.4KΩ	#2.4KΩ	0Ω		
V 2	6J6	#4.9KΩ	#15KΩ	0Ω	.2Ω	220KΩ	22KΩ	0Ω		
V 3	6AU6	1.7 Meg.	0Ω	0Ω	.1Ω	#200Ω	#200Ω	82Ω		
V 4	6AU6	1.7 Meg.	0Ω	0Ω	.1Ω	#100Ω	#100Ω	82Ω		
V 5	6AU6	.1Ω	0Ω	0Ω	.1Ω	#100Ω	#100Ω	82Ω		
V 6	6AL5	Not used in all models.								
V 7	6AC7	Inf.	0Ω	1000Ω	2.5KΩ	1000Ω	†17KΩ	.1Ω	†17KΩ	
V 8	12AU7	#7.8KΩ	82KΩ	2.7KΩ	.1Ω	.1Ω	82KΩ	0Ω	270KΩ	0Ω
V 9	6AU6	#48KΩ	#1000Ω	#.1Ω	#0Ω	†1.1KΩ	†20KΩ	#1000Ω		
V 10	6AL5	Inf.	Inf.	#.1Ω	#0Ω	#0Ω	Inf.	#14KΩ		
V 11	6SQ7GT	Inf.	#475KΩ	#0Ω	#0Ω	#0Ω	†330KΩ	#0Ω	#.1Ω	
V 12	6V6GT	Inf.	#.1Ω	†920Ω	†490Ω	230KΩ	Inf.	#0Ω	#0Ω	
V 13	6J5GT	Not used in all models.								
V 14	6SN7GT	2.2 Meg.	▲4.7KΩ	5.5KΩ 560Ω	2.2 Meg.	▲1 Meg. ▲2.5 Meg.	0Ω	.1Ω	0Ω	
V 15	6H6GT	Inf.	.1Ω	27KΩ	4.8 Meg.	4.8 Meg.	4.8 Meg.	0Ω	27KΩ	
V 16	6SN7GT	5.2 Meg.	▲27KΩ	1.5KΩ	150KΩ	▲240KΩ	1.5KΩ	0Ω	.1Ω	
V 17	6BG6G	Inf.	0Ω	82Ω	Inf.	1 Meg.	Inf.	.1Ω	†8.3KΩ	TOP CAP ▲60Ω
V 18	6W4GT	Inf.	Inf.	100KΩ	Inf.	†160Ω	Inf.	#0Ω	#.1Ω	
V 19	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP ▲750Ω
V 20	5U4G	Inf.	20KΩ	Inf.	40Ω	Inf.	40Ω	Inf.	20KΩ	
V 21	16DP4A	0Ω	270KΩ	PIN 10 †1.2KΩ	PIN 11 90KΩ	PIN 12 .1Ω				

FOCUS CONTROL SET FULLY COUNTER-CLOCKWISE.
MEASURED FROM PIN 8 OF V12.
† MEASURED FROM PIN 2 OF V20.
▲ MEASURED FROM PIN 3 OF V18.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. Front panels controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Turn the horizontal hold control to the mid-position of its range.

Adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally.

Adjust the horizontal drive trimmer (B2) clockwise as far as possible without crowding the right side of the picture.

Adjust the horizontal size slug (B3) until the picture fills the mask horizontally.

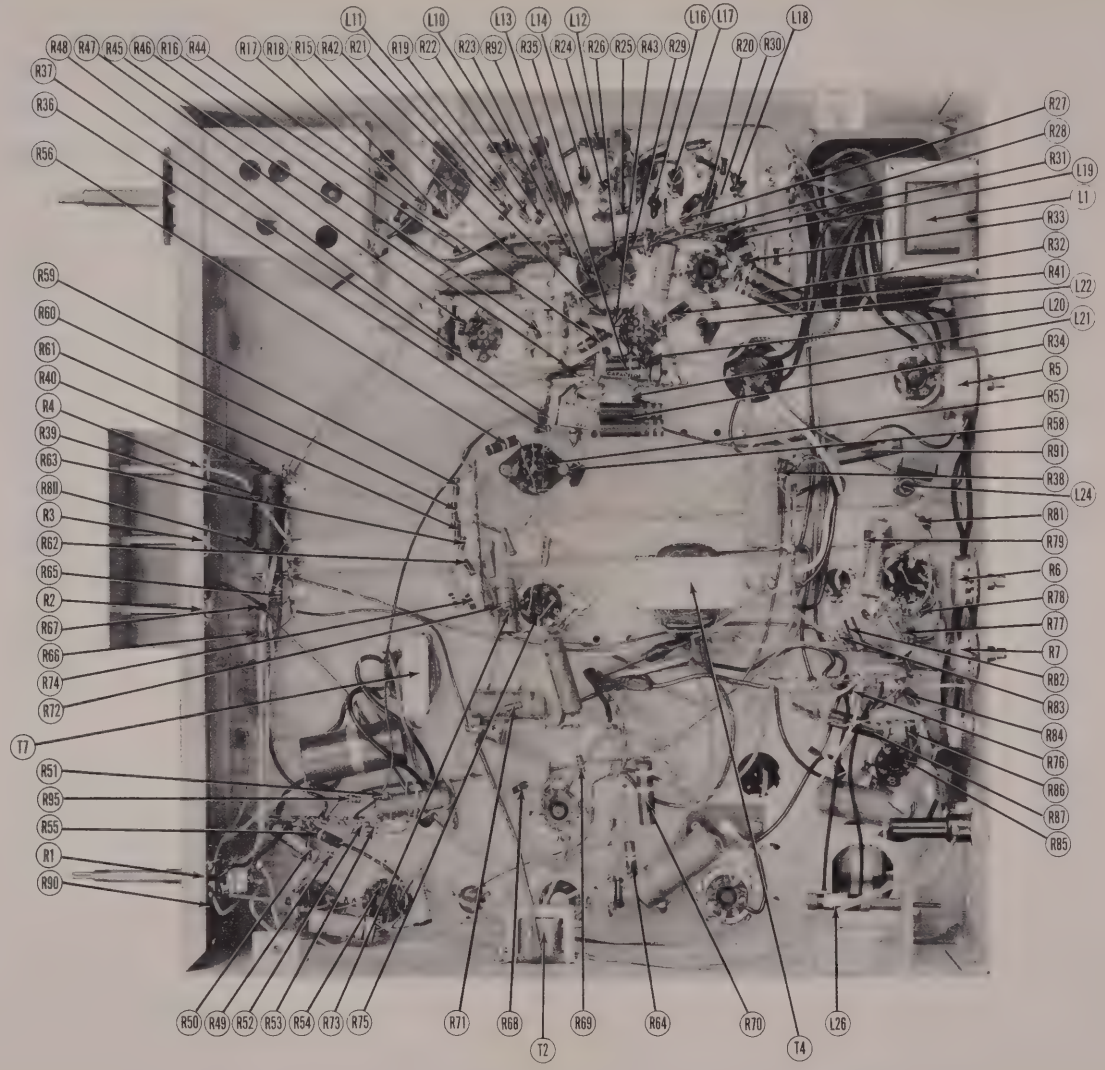
Adjust the horizontal linearity slug (B4) until the picture is symmetrical from left to right.

Readjustment of B2 may be necessary for optimum results.

DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type control knobs.
2. Remove six wood screws holding rear cover in place. Remove rear cover.
3. Disconnect built-in antenna.
4. Disconnect speaker leads.
5. Remove one 5/16" hex nut holding brace from top of picture tube to top of cabinet.
6. Remove four 5/16" hex head bolts holding chassis in cabinet. Remove chassis.
7. Remove two 5/16" hex nuts holding speaker. Remove speaker.

FOR PICTURE TUBE REMOVAL IT IS NECESSARY TO REMOVE CHASSIS AS OUTLINED ABOVE.



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

PROPERTY OF
L. F. BLANKENSHIP
3321 MEADE ST.
DENVER, COLORADO

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: AMBASSADOR PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	RF Amplifier	6CB6	6CB6	6CK	
V2	Converter	6J6	6J6	7BF	
V3	1st Video IF Amp.	6AU6	6AU6	7BK	
V4	2nd Video IF Amp.	6AU6	6AU6	7BK	
V5	3rd Video IF Amp.	6AU6	6AU6	7BK	
V6	Video Det. -AGC Rectifier	6AL5	6AL5	8BT	Crystal Detectors are used in place of V6 in some models
V7	Video Amplifier	6AC7	6AC7	8N	
V8	DC Rest. -Sync Clipper -Sync Amp. -Phase Inverter	12AU7	12AU7	9A	
V9	Sound IF Amplifier	6AU6	6AU6	7BK	
V10	Ratio Detector	6AL5	6AL5	8BT	
V11	AF Amplifier	6SQ7	6SQ7	8Q	
V12	Audio Output	6V6GT	6V6GT	TAC	
V13	Vert. Oscillator	6J5	6J5	6Q	Separate Vert. Osc. Tube Used in models with rectangular picture tube.
V14	Vert. Amp. and/or Vert. Osc.	6SN7GT	6SN7GT	8BD	In models employing V13, elements of V14 are paralleled.
V15	Horiz. Phase Det.	6H6	6H6	7Q	
V16	Horiz. Multivibrator	6SN7GT	6SN7GT	8BD	
V17	Horiz. Output	6BG6G	6BG6G	5BT	
V18	Damper	6W4GT	6W4GT	4CG	
V19	High Volt Rectifier	1B3GT	1B3GT	3C	
V20	Low Volt Rectifier	5U4G	5U4G	5T	
V21A	Picture Tube	16DP4A	16DP4A	12D	
B	Picture Tube	16TP4	16TP4	12D	Alternate
C	Picture Tube	14CP4	14CP4	12D	Alternate
D	Picture Tube	17BP4	17BP4	12D	Alternate

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AMBASSADOR PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	450		AF8883		UPT44445			TVL-3787
B	40	450							▪ Filter
C	40	450							● Filter
C2A	50	350		PRS450/40		BR5035			▲ Filter
B	10	250		AF8323B		UPT302			▫ Decoupling
C	500	5		PRS8/500					TVA-1613 ▪ Vert. Amp. Screen Byp
C3A	20	450		AF41		UPT1150			TVL-2735 ▲ Filter
B	100	25		PRS25/100				V10	TVA-1103 ▪ Vert. Output Decoupling
C4	50	350							TVL-1714 ▫ Vert. Output Cathode
C5	4	50		PRS150/4		BBRT4-50T			TVA-1207 Decoupling
C6A	10	450		AF23J		UP1145			TVA-1303 Stabilizing Capacitor
B	10	450							TVL-2750 ▪ Decoupling
C7	500			S1500	DD-501		811-001	19C32	▫ Vert. Osc. Decoupling
C8	500			S1500	DD-501		811-001	19C32	AGC Filter
C9	470			S1470	D6-471		GP2K-470	19C15	RF Amp. Plate Decoup.
C10	3	5			TCZ-2.3				RF Amp. Plate Decoup.
C11	.5				TCZ-.5				RF Coupling
C12	1.8								RF Coupling
C13	470			S1470	D6-471		GP2K-470	19C15	Conv. Grid Filter
C14	1.5			S1.5NPO	TCZ-1.5		NPOK-1.5		Oscillator Coupling
C15	10			S10NPO	TCZ-10		NPOK-10	19C3	Osc. Grid Capacitor
C16	3						NOK0K-3		Oscillator Feedback
C17A	1000			BPD-2x00	DD-2-102		883-2x0015	39C7	RF Bypass
B	1000								Conv. Fil. Bypass
C18	10			S10NPO	TCZ-10		NPOK-10	19C3	Fixed Trimmer
C19	120			S120	D6-121	5WST15	GP2K-120	19C29	IF Coupling
C20	5000			BPD-005	DD-502	1D5D5	811-005	29C1	AGC Filter
C21	5000			BPD-005	DD-502	1D5D5	811-005	29C1	1st Video IF Decoupling
C22	5000			BPD-005	DD-502	1D5D5	811-005	29C1	1st Video IF Filament
C23	120			S120	D6-121	5WST15	GP2K-120	19C29	IF Coupling
C24	..	600		P688-1	DF-104	PTE6P1		6TM-P1	AGC Filter
C25	5000			BPD-005	DD-502	1D5D5	811-005	29C1	2nd Video IF Decoupling
C26	5000			BPD-005	DD-502	1D5D5	811-005	29C1	2nd Video IF Filament
C27	5000			BPD-005	DD-502	1D5D5	811-005	29C1	3rd Video IF Decoupling
C28	5000			BPD-005	DD-502	1D5D5	811-005	29C1	3rd Video IF Filament
C29	5000			BPD-005	DD-502	1D5D5	811-005	29C1	IF Coupling
C30	120			S120	D6-121	5WST15	GP2K-120	19C29	IF Coupling
C31	120			S120	D6-121	5WST15	GP2K-120	19C29	DAGC Decoupling
C32	.01	600		P688-01	D6-103	PTE6S1	811-01	6TM-P1	Video Diode Filter
C33	5			S5	TCZ-4.7	5W5V5	GP1K-5	MS-55	Bias Filter
C34	..	600		P688-1	DF-104	PTE6P1		6TM-P1	V. Det. -AGC Fil.*
C35	5000			BPD-005	DD-502	1D5D5	811-005	29C1	V. Amp. Cath.
C36	680			S680	D6-681	1W5T7	GP2K-680	19C17	V. Amp. Cath.
C37	470			S470	D6-471	5WST5	GP2K-470	19C15	Video Coupling
C38	.1	600		P688-1	DF-104	PTE6P1		6TM-P1	Pic. Tube Cath.
C39	.1	600		P688-1	DF-104	PTE6P1		6TM-P1	Sync. Clipper Plate
C40	22	500		S22	D6-220	5W5Q25	GP1K-22	19C23	S. IF Coupling
C41	5			S5	TCZ-4.7	5W5V5	GP1K-5	MS-55	Fixed Trimmer
C42	39	500		1469-00004	TCZ-39	5R5Q4	NPOL-39	MS-44	S. IF Coupling
C43	39	500		1469-00004	TCZ-39	5R5Q4	NPOL-39	MS-44	S. IF Decoup.
C44	.02	500		P688-02	DF-203	PTE6S2		6TM-S2	S. IFScreen
C45	5000			BPD-005	DD-502	1D5D5	811-005	29C1	S. IF Decoup.
C46	.02	600		P688-02	DF-203	PTE6S2		6TM-S2	Balancing
C47	3			S3NPO			NPOK-3		Diode Load Cap.
C48	1000			S1000	D6-102	1W5D1	GP2L-001	19C1	De-emphasis
C49	3900			S14000	D6-402	1D5D4	GP2M-004	6TM-D4	Audio Coupling
C50	.05	600		P688-05	DF-503	PTE6S5		6TM-S5	Audio Coupling
C51	.005	600		P688-005	D6-502	PTE6D5	811-005	6TM-D5	Audio Coupling
C52	.02	600		P688-02	DF-203	PTE6S2		6TM-S2	Bias Filter
C53	.05	600		P688-05	DF-503	PTE6S5		6TM-S5	Output Plate Byp.
C54	.01	600		P688-01	D6-103	PTE6S1	811-01	6TM-S1	Integrator Net.
C55	2000			S12000	D6-202	1W5D2	GP2M-002	6TM-D2	Integrator Net.
C56	5000			S15000	D6-502	1D5D5	811-005	6TM-D5	

ITEM No	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AMBASSADOR PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C57	5000			S15000	D6-502	1D5D5	811-005	6TM-D5	Integrator Net.
C58	4700			S4700	D6-472	1D5D5	GP2M-0047	6TM-D47	Vert. Osc. Grid
C59	.1	600		P688-1		PTE6P1		6TM-P1	Vert. Discharge
C60	.25	600		684-25		GT6P25		6TM-P25	Vert. Sweep Coupling
C61	1000			S11000	D6-102	1W5D1	GP2L-001	19C1	Hor. Sync. Coupling
C62	1000			S11000	D6-102	1W5D1	GP2L-001	19C1	Hor. Sync. Coupling
C63	.05	600		P688-05	DF-503	PTE6S5		6TM-S5	Hor. Feedback
C64	.01	600		P688-01	D6-103	PTE6S1		6TM-S1	Voltage Divider
C65	.005	600		P688-005	D6-502	PTE6D5	811-005	6TM-D5	AFC Filter
C66	.05	600		P688-05	DF-503	PTE6S5		6TM-S5	AFC Filter
C67	330	500		1468-00035	D6-331	5W5T3	GP2K-330	1FM-335	Hor. MV Feedback
C68	3900	500		1464-004		1DR5D4		M6-24	Fixed Trimmer
C69	430	500							Hor. Discharge
C70	270	500		1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	Hor. Sweep Coupling
C71	10	1500		1469-HV-00001					Hor. Feedback
C72	10	1500		1469-HV-00001					Hor. Feedback
C73	.05	600		P688-05	DF-503	PTE6S5		6TM-S5	Hor. Output Screen
C74	.25	600		684-25		GT6P25		6TM-P25	Hor. Output Cath.
C75	.25	600		684-25		GT6P25		6TM-P25	Damper Filter †
C76	.035	600		P688-033				6TM-S33	Damper Filter §
C77	10								Fixed Trimmer §
C78	10								Fixed Trimmer §
C79	.25	800		684-25		GT6P25		6TM-P25	Hor. Sweep Coupling
C80	5000	20000		HV20C	TV2-502				HV Filter.
C81	.01	600		P688-01	D6-103	PTE6S1	811-01	6TM-S1	Line Filter
C82	.01	600		P688-01	D6-103	PTE6S1	811-01	6TM-S1	Line Filter
C83	15			S15	D6-150		GP1K-15	19C22	RF Coupling
C84	120			S1120	D6-121	5W5T15	GP2K-120	19C29	IF Coupling

* Used only in models using 6AL5 as V. Det. and AGC.
† Some models use .05MFD in this application.
§ Not used in 16" round tube models.
$ Used only in models using 16" round tube.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMBASSADOR PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	2000Ω	½			RTV-116	SBBT-578-8	Contrast control-tapped at 1500Ω and 1700Ω-front
B	1 Meg.	½					Volume control and switch-rear
R1A	750Ω	½					Contrast control-tapped at 250Ω-front
B	250KΩ	½					Volume control and switch-rear
R2A	1.3 Meg.	½	VC12132		AG-63-8	AN-69	See note 1
B	Shaft		Not Req.		KS8-3	AK-4	Vert. hold control
R3A	50KΩ	½	VC12131	QII-123	AG-44-8	AN-31	Attach to R2A per instructions
B	Shaft		Not Req.	Not Req.	R8-2	AK-4	Hor. hold control
R4A	100KΩ	½	VC12130	QII-128	AG-49-8	AN-40	Attach to R3A per instructions
B	Shaft		Not Req.	Not Req.	R2-2	AK-4	Brightness control
R5	1500Ω	4	VC12122A		RTV-6	SVS-928	Attach to R4A per instructions
R6A	2.5 Meg.	½	VC11121	QII-239	AM-84-8	AN-83	Focus control-Wire Wound
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Vert. size control
R7A	5000Ω	½	VC11230	QII-114	AM-19-8	AN-10	Attach to R6A per instructions
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Vert. linearity control
							Attach to R7A per instructions

Note 1. Not used in all models.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMBASSADOR PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ARE ± 20% UNLESSJOTHERWISE STATED
R8	2200Ω	½		BTS-2200	RF Amp. Grid
R9	47Ω	½			RF Amp. Cathode
R10	2200Ω	½		BTS-2200	RF Amp. Plate
R11	220KΩ	½		BTS-220K	Mixer Grid
R12	15KΩ	½		BTS-15K	Mixer Plate
R13	22KΩ	½		BTS-22K	Osc. Grid
R14	4700Ω	½		BTS-4700	Osc. Plate
R15	100Ω	½		BTS-100	Decoupling
R16	330Ω	½		BTS-330	AGC Network
R17	8200Ω	½		BTS-8200	1st Video IF Amp. Grid
R18	82Ω	½		BTS-82	1st VideoIF Amp. Cathode
R19	100Ω	½		BTS-100	Decoupling
R20	1 Meg.	½		BTA-1 Meg.	AGC Filter
R21	22KΩ	½		BTS-22K	2nd Video IF Amp. Grid
R22	82Ω	½		BTS-82	2nd Video IF Amp. Cathode
R23	100Ω	½		BTS-100	Decoupling
R24	8200Ω	½		BTS-8200	3rd Video IF Amp. Grid
R25	82Ω	½		BTS-82	3rd Video IF Amp. Cathode
R26	100Ω	½		BTS-100	Decoupling
R27	8200Ω	½		BTS-8200	Video Det. Diode Load
R28	1000Ω 10%	½		BTS-1000	Voltage Divider
R29	39KΩ	½		BTA-39K	Voltage Divider
R30	680KΩ	½		BTS-680K	AGC Network
R31	120Ω	½			Parasitic Supp.
R32	22KΩ	3			Video Amp. Screen-See Note 2
R33	22KΩ 10%	½		BTA-22K	Voltage Divider
R34	34KΩ	4			Video Amp. Plate-See Note 2
R35	5600Ω	½		BTA-5600	Voltage Divider
R36	270KΩ 10%	½		BTS-270K	DC Restorer Grid
R37	2200Ω	½		BTS-2200	Picture Tube Grid
R38	1000Ω	½		BTS-1000	Acc. Anode Decoupling
R39	220KΩ	½		BTS-220K	Voltage Divider
R40	10KΩ	½		BTS-10K	Voltage Divider
R41	47KΩ	½		BTS-47K	Bound IF Amp. Grid Leak
R42	1000Ω	½		BTS-1000	Bound IF Amp. Cathode
R43	12KΩ	½		BTS-12K	Voltage Divider

RESISTORS (CONT.)

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMBASSADOR PART No.	IRC PART No.	IDENTIFICATION CODES
R44	39KΩ	1		BTA-39K	Sound IF Amp. Screen
R45	1000Ω	½		BTS-1000	Sound IF Amp. Decoupling
R46	15KΩ	½		BTS-15K	De-emphasis
R47	680Ω	½		BTS-680	Ratio Det. Diode Load
R48	680Ω	½		BTS-680	Ratio Det. Diode Load
R49	470KΩ	½		BTS-470K	Audio Amp. Grid
R50	330KΩ 5%	½		BTS-330K-5%	Bias Network
R51	180KΩ 5%	½		BTS-180K-5%	Voltage Divider
R52	470KΩ	½		BTS-470K	Voltage Divider
R53	4700Ω	½		BTS-4700	Voltage Divider
R54	100KΩ	½		BTS-100K	Audio Output Grid
R55	390Ω	½		BTA-390	Decoupling
R56	820KΩ 10%	1		BTA-820K	Voltage Divider
R57	82KΩ 10%	½		BTS-82K	Sync. Sep. Grid
R58	3700Ω 10%	½		BTS-3700	Sync. Sep. Cathode
R59	3900Ω	½		BTS-3900	Sync. Sep. Plate
R60	3900Ω	½		BTS-3900	Sync. Sep. Plate
R61	22KΩ	½		BTS-22K	Integrator
R62	8200Ω	½		BTS-8200	Integrator
R63	8200Ω	½		BTS-8200	Integrator
R64	820KΩ	1		BTA-820K	Vert. Osc. Grid
R65	680KΩ	½		BTS-680K	Vert. Osc. Plate-See Note 3
R66	8.8 Meg.	½		BTS-8.8 Meg.	Voltage Divider
R67	100KΩ	½		BTS-100K	Voltage Divider
R68	2.2 Meg.	½		BTS-2.2 Meg.	Vert. Amp. Grid
R69	560Ω	½		BTS-560	Vert. Amp. Cathode-See Note 4
R70	3900Ω 10%	2		BTS-3900	Vert. Amp. Plate
R71	3300Ω	½		BTS-3300	Vert. Peaking
R72	100KΩ	½		BTS-100K	Horiz. Phase Det. Load
R73	100KΩ	½		BTS-100K	Horiz. Phase Det. Load
R74	4.7 Meg.	½		BTS-4.7 Meg.	Horiz. Phase Det. Load
R75	27KΩ	½		BTS-27K	Feedback Network
R76	4700Ω	½		BTS-4700	Feedback Network
R77	470KΩ	½		BTS-470K	Horiz. AFC Filter Network
R78	1500Ω	½		BTS-1500	Horiz. Osc. Cathode
R79	5600Ω	½		BTS-5600	Horiz. Osc. Plate
R80	100KΩ	½		BTS-100K	Horiz. Osc. Grid
R81	220KΩ 10%	½		BTS-220K	Horiz. Osc. Plate
R82	22KΩ	½		BTA-22K	Decoupling
R83	470KΩ	½		BTS-470K	Decoupling
R84	1 Meg.	½		BTA-1 Meg.	Hor. Output Grid
R85	68Ω	½			Parasitic Supp.
R86	82Ω	1			Horiz. Output Cathode
R87	8200Ω	2		BTS-8200	Horiz. Output Screen-See Note 5
R88	3.3Ω	½			HV Rectifier Filament
R89	1 Meg.	½			HV Filter
R90	560Ω	1		BTS-560	Contrast Control Shunt-See Note 6
R91	270Ω	2		BW-2-270	Focus Coil Shunt
R92	15Ω	2		BW-5-15	Bias Network
R93	4700Ω	2		BTS-4700	RF Coil Shunt
R94	4700Ω	2		BTS-4700	Antenna Coil Shunt
R95	330KΩ 5%	1		BTS-330K-5%	AF Amp. Plate

Note 2. Two resistors may be used in parallel to obtain desired resistance and wattage.
Note 3. Some models use 1 Meg. resistor in this application.
Note 4. Some models use 270Ω resistor in this application.
Note 5. When a 16 inch rectangular picture tube is used this resistor is 6800Ω.
Note 6. Not used in all models.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: AMBASSADOR PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC	760VCT	5VAC	6.3VAC		P-8157	P-3067	TP-400
	② 1.65A	.190ADC	③ 3A	③ 2.7A		P-5014 ③		F-633 ②
				SEC. 4				
				6.3VAC				
				④ 5.8A				

② Use for SEC. #3.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING: DC RESISTANCE PRI.	RATING: DC RESISTANCE SEC.	REPLACEMENT DATA: AMBASSADOR PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	NOTES
T2	160Ω	960Ω		A-8111 ①	A-3000 ①	TSO-1 ①	Vert. Block Osc. Trans.
T3	750Ω	10Ω			HVO-6		Hor. Output Trans.
	Tap ④ 60Ω	Tap ④ .5Ω, 7.2Ω					
		SEC. 2					
		0Ω					
T4	800Ω	6.2Ω		A-8112	A-3036	TSO-5 ①	Vert. Output Trans.
T5A	140Ω			DY-7	MD-70		Hor. Deflection Coil
B	64Ω						Vert. Deflection Coil
T6	250Ω				MF-1		Focus Coil

① Drill one new mounting hole.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	AMBASSADOR PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T7	3800Ω	3.8Ω	430Ω	.7Ω		A-3877	A-3018 ①	RO-6 ①	① Drill one new mounting hole.

PARTS LIST CONTINUED ON PAGE 15

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PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	AMBASSADOR PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.8Ω			12A4A	
	CONE DIA.	V. C. DIA.				
SP2	11 1/2"	1"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∽)	AMBASSADOR PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.190ADC	27Ω	1.5 Henries		C-2325 ①	C-2974	TR-4200①	① Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC. RES.		REPLACEMENT DATA			NOTES
		PRI.	SEC.	AMBASSADOR PART No.	MERIT PART No.	IRC PART No.	
L2	Ant. Coil	0Ω	0Ω				
L3	Ant. Coil	0Ω	0Ω				
L4	RF Coil	0Ω					
L5	Mixer Grid Coil	0Ω					
L6	Osc. Coil	0Ω					Channel 6
L7	Osc. Coil	0Ω					Channel 13
L8	Fil. Choke	.2Ω				CLA-4.7	4.7 microhenries
L9	1st Video IF	.5Ω					
L10	Fil. Choke	0Ω					
L11	2nd Video IF	.1Ω					
L12	Fil. Choke	0Ω					
L13	RF Choke	4Ω					
L14	3rd Video IF	.1Ω					
L15	Fil. Choke						Not used in all models.
L16	RF Choke	4Ω					
L17	4th Video IF	.1Ω					
L18	Peaking	7.8Ω					120 microhenries
L19	Peaking	20Ω					600 microhenries
L20	Peaking	9.2Ω					150 microhenries, wound on 18KΩ resistor.
L21	Peaking	13Ω					300 microhenries
L22	Sound IF	1.9Ω					
L23	Ratio Det. Trans.	4.2Ω	.2Ω				
L24	Horiz. Freq.	90Ω					
L25	Horiz. Lin.						Not used in all models.
L26	Horiz. Size	.3Ω					

MISCELLANEOUS

ITEM No.	PART NAME	AMBASSADOR PART No.	NOTES
M1	RF Tuner		
M2	Fuse		5A 250V Type 3AG
M3	Fuse		.25A 250V Type 3AG
M4	Crystal		Video Det. 1N-64
M5	Crystal		AGC Rectifier 1N-65
M6	Ion Trap		
B2	Trimmer		Horiz. drive 25-280MMF

CORONADO MODELS 05RA2-43-8230A, 15RA2-43-8230A, 94RA2-43-8230A

CORONADO MODELS 05RA2-43-8230A, 15RA2-43-8230A, 94RA2-43-8230A

CORONADO MODEL 05RA-43-8230A

TRADE NAME	Coronado Models 05RA-43-8230A, 15RA-43-8230A, 49RA-43-8230A
SUPPLIER	Gamble-Skogmo, Inc., 15 N. 8th St., Minneapolis, Minn.
TYPE SET	AC/DC Operated AM Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types 12BE6 Conv., 12BD6 IF Amp., 12AV6 or 12AT6 Det.-AVC-AF Amp., 50C5 Audio Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC/DC — RATING .25 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1620KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set right edge of pointer carriage even with last dot at left hand end of dial backplate.

Use isolation transformer, if available. If not, connect a .1MFD capacitor in series with low side of signal generator and B-. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to stator on rear section of tuning gang. Low side to B-.	455KC (400%Mod)	Tuning gang fully open	Across voice coil.	A1, A2 A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2.		Loop	1620KC	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		"	1400KC	Tune for max. output.	"	A6	"

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: CORONADO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	Converter	12BE6	12BE6	7CH	
V2	IF Amplifier	12BD6	12BD6	7BK	
V3A	Det.-AVC-AF Amp.	12AV6	12AV6	7BT	
B	Det.-AVC-AF Amp.	12AT6	12AT6	7BT	
V4	Audio Output	50C5	50C5	7CV	
V5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	50	150	8C-17391	PRS150/50-30		EDL5315		TVA-2450	Filter (Blue)
B	30	150							Filter (Red)
C2	.05	200	8D-10770	P288-05	DF-503	PJ5S2		2TM-S5	AVC Filter
C3	.01	400		P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling *
C4A	220			SI220	D6-221		GP2K-221		Diode RF Filter †
B	.002		201-14397	SI2000	D6-202	TM5D2	GP2-333-202	34C3	Audio Coupling †
C	220			SI220	D6-221		GP2K-221		AF Amp. Plate †
D	.005			SI5000	D6-502	TM5D5	GP2-333-502		Audio Coupling †
C5	.02	400	8D-10774	P488-02	DF-203	PTE4S2		4TM-S2	Audio Output Plate
C6	.047	400	8J-16081	P488-047		PTE4S47		4TM-S47	Rectifier Plate
C7	.09	400	8D-11251						Line Isolation

* Note Used in All Models
† Some Models combine C4A, C4B, C4C, C4D, R6, R7, R8 into one unit

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	1Meg	½	A10-18650	Q13-137	AG-63-Z	BSK-70-S	Volume Control
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Attach to R1A per instructions
C	Switch		Not Req.	76-1	SWB	Not Req.	Attach to R1A per instructions

RESISTORS

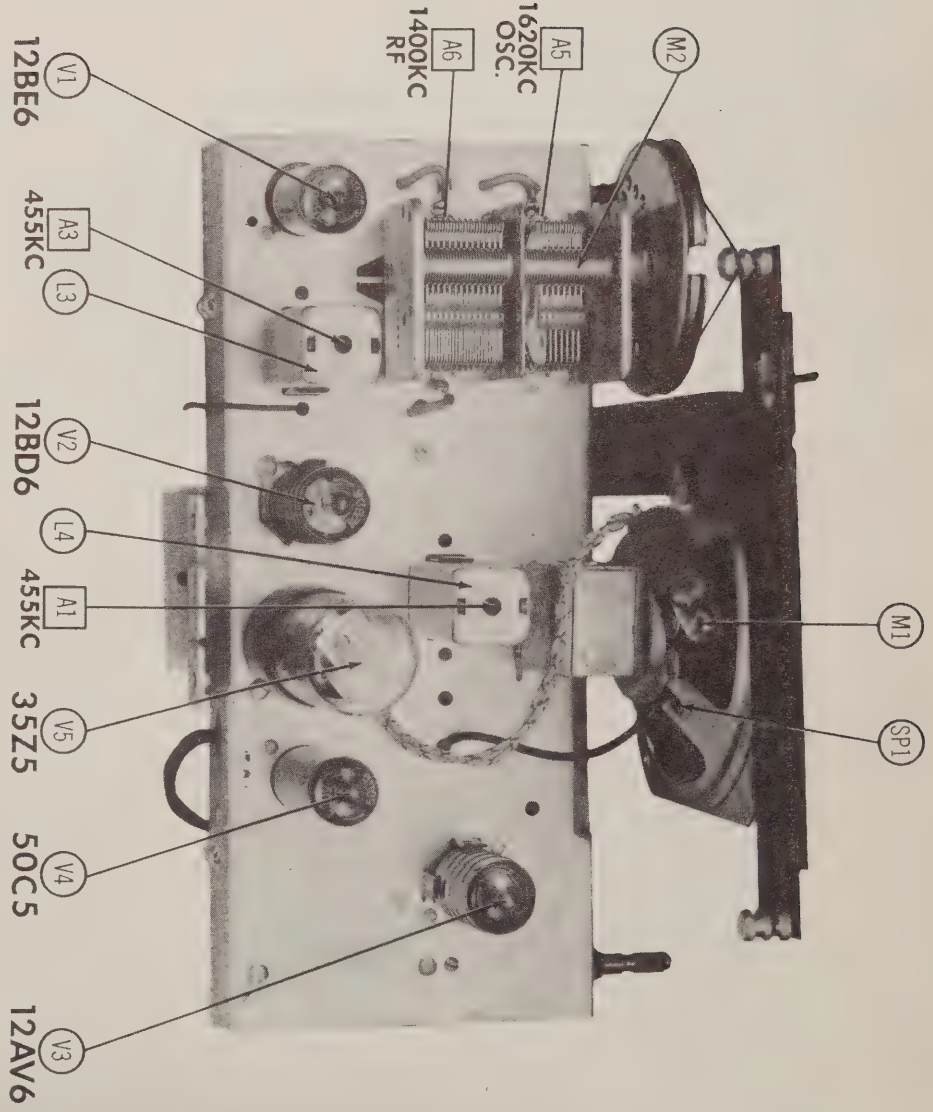
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	IDENTIFICATION CODES
R2	47KΩ	½	9B1-82		Mixer Grid
R3	220KΩ	½	9B1-27		Isolation
R4	68Ω	½	9B1-48		IF Amp. Cathode
R5	3.3Meg	½	9B1-34	BTS-3.3Meg	AVC Network
R6	10Meg	½	9B1-37 †	BTS-10Meg	AF Amp. Grid
R7	220KΩ	½	9B1-27 †	BTS-220K	AF Amp. Plate
R8	470KΩ	½	9B1-29 †	BTS-470K	Output Grid
R9	150Ω	½	9B1-52	BTS-150	Output Cathode
R10	1000Ω	1	9B2-62	BTA-1000	Filter
R11	27Ω	½	9B1-43		Parasitic Suppressor

† Some Models combine R6, R7, R8, C4A, C4B, C4C, C4D into one unit

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: CORONADO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T1	2.1KΩ	3.5Ω	170Ω	.5Ω	12C-17595 12C-19302 ②	A-3332	A-3025	R0-2 ①	① Use Mounting Holes provided ② Alternate transformer

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	CORONADO PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.5Ω	18A-18656		4A07 ①	① Use Universal Mounting Bracket Provided.
	CONE DIA.	V. C. DIA.				
SP1B	4"	9/16"				

COILS (RF-IF)

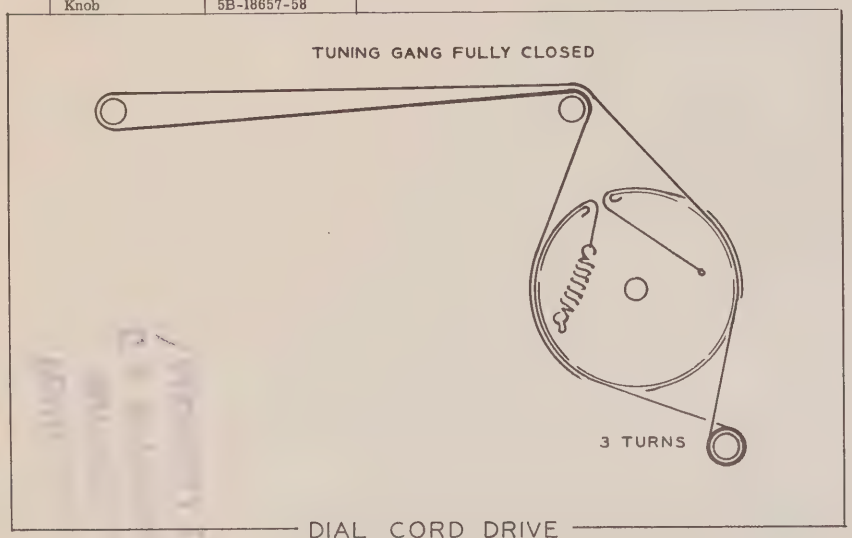
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	CORONADO PART No.	MERIT PART No.	
L1	Loop Ant.	3.3Ω		13E-18653		
L2	Osc. Coil	.7Ω	6Ω	13D-17583	BC-397	
L3	Input IF	19.2Ω	19Ω	13B-17397	BC-352	
L4	Output IF	17Ω	17.8Ω	13B-17399	BC-353	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					CORONADO PART No.		
M1	Bayonet	6-8	.15	Brown	46A-10793		Type No. 47

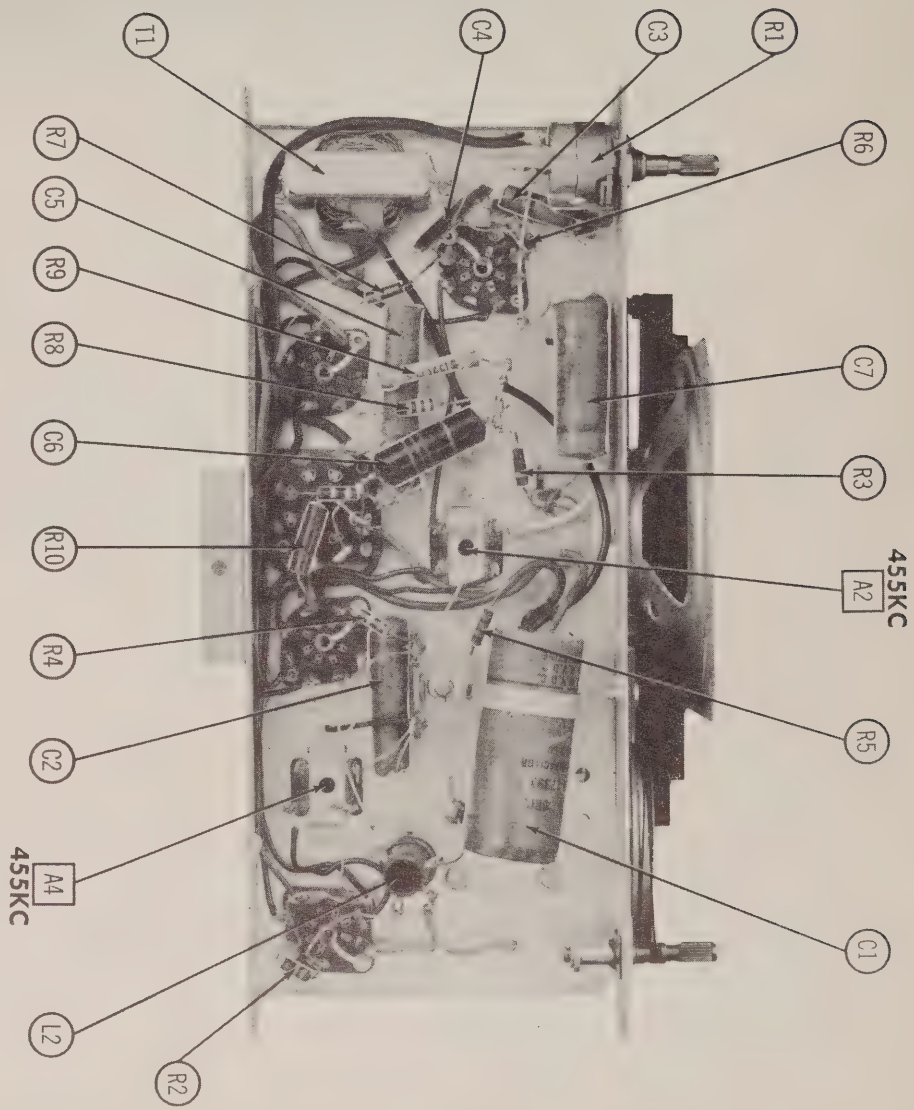
MISCELLANEOUS

ITEM No.	PART NAME	CORONADO PART No.	NOTES
M2	2 Gang Var. Cap.	8A-17377	(30-455MMF, 25-164MMF)
	Cabinet	5C-16147-75	
	Dial Scale	6D-16383	
	Pointer	2G-18615	
	Knob	5B-18657-58	



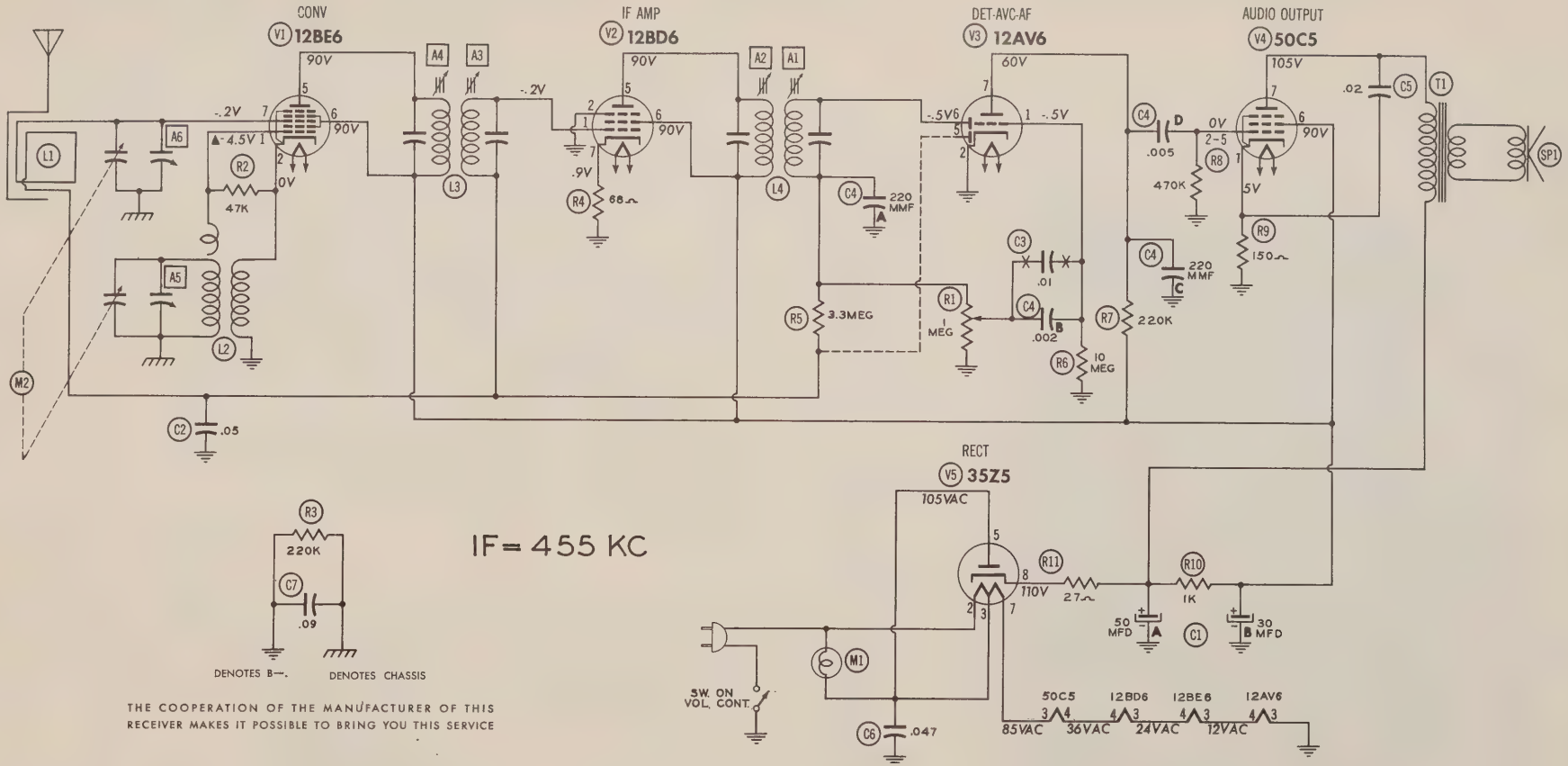
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



CORONADO
MODEL 05RA-43-8230A

CORONADO
MODEL 05RA-43-8230A



RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	12BE6	47Ω	.8Ω	12Ω	24Ω	†1KΩ	†1KΩ	4.3Meg
V 2	12BD6	4.3Meg	0Ω	24Ω	36	†1KΩ	†1KΩ	68Ω
V 3	12AV6	10Meg	0Ω	0Ω	12Ω	Inf.	1Meg	†220KΩ
V 4	50C5	150Ω	470KΩ	86Ω	36Ω	470KΩ	†1KΩ	†197Ω
V 5	35Z5GT	Inf.	121Ω	103Ω	†27Ω	103Ω	†1KΩ	86Ω

▲ TAKEN WITH VACUUM TUBE VOLTMETER
† MEASURED FROM PIN 8 OF V5

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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162-3

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

PHOTOFACT* Folder

*TRADE MARK

CORONADO MODELS 15TV1-43-8957A, B, 15TV1-43-9015A, B, 15TV1-43-9016A, B

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MODEL 15TV1-43-8957A

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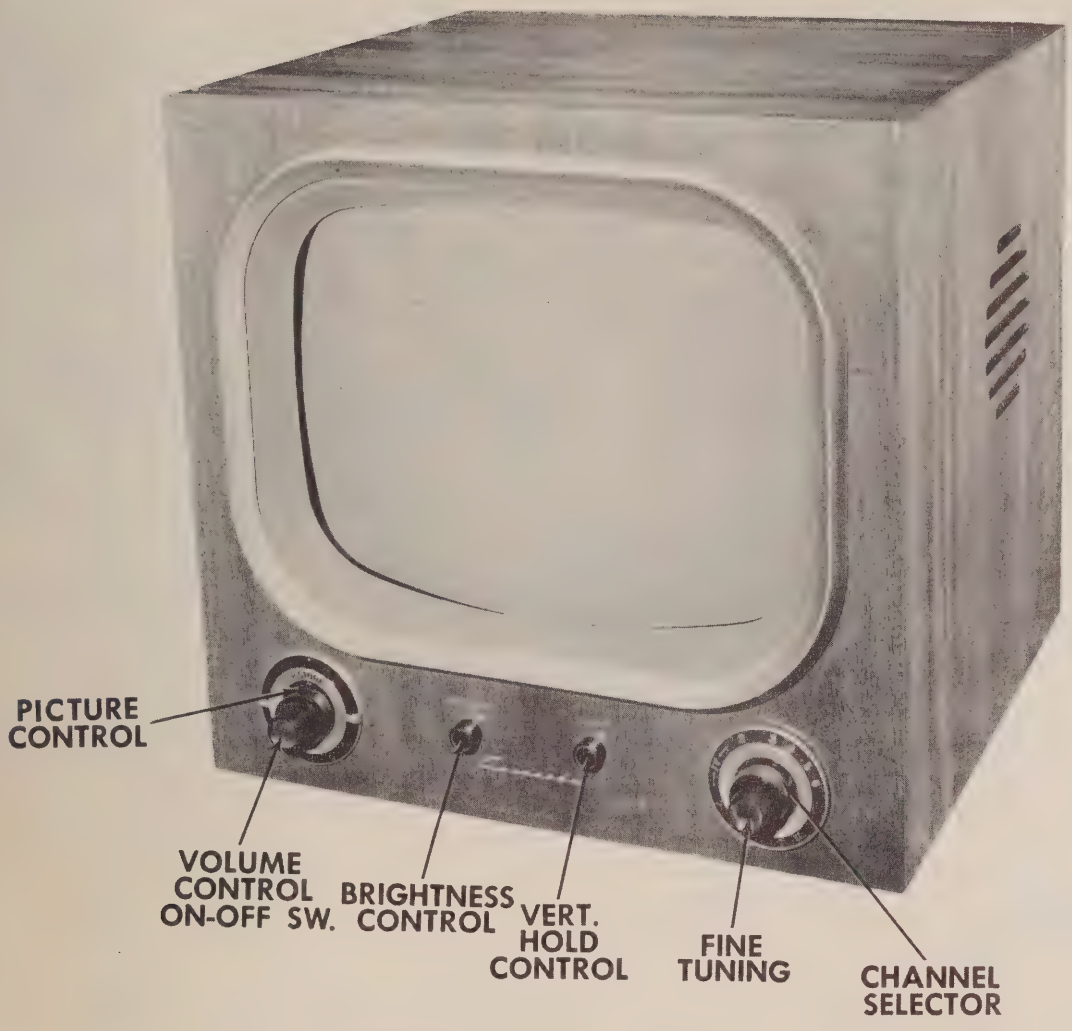

CORONADO MODELS 15TV1-43-8957A, B, 15TV1-43-9015A, B, 15TV1-43-9016A, B

Coronado Model 15TV1-43-8957A

TRADE NAME	Coronado Models 15TV1-43-8957A, B, 15TV1-43-9015A, B, 15TV1-43-9016A, B
SUPPLIER	Gamble-Skogmo Inc., 15 N. 8th St., Minneapolis, Minn.
TYPE SET	Television Receiver
TUBES	Twenty-Two
POWER SUPPLY	110-120 Volts AC-60 Cycle — RATING 1.8 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 (continuous tuner) — SHORT WAVE

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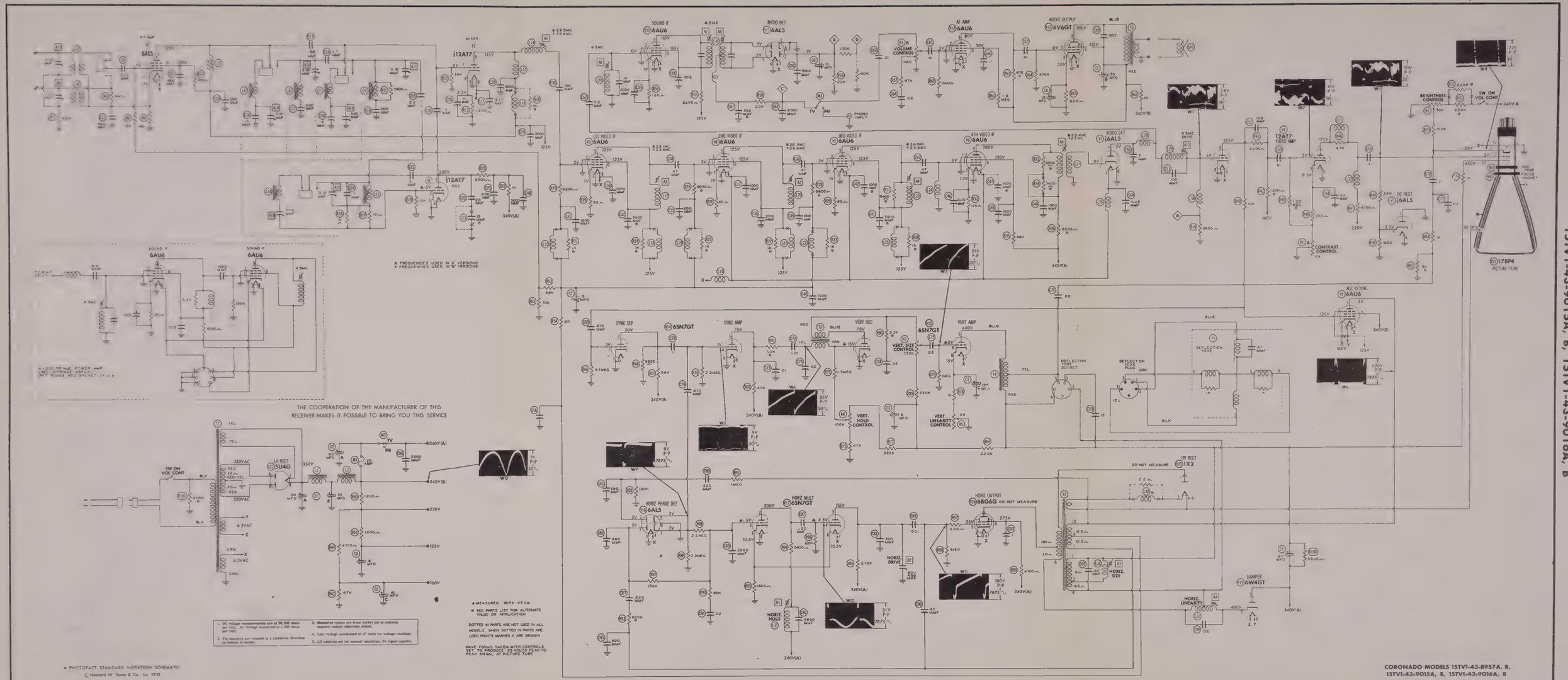

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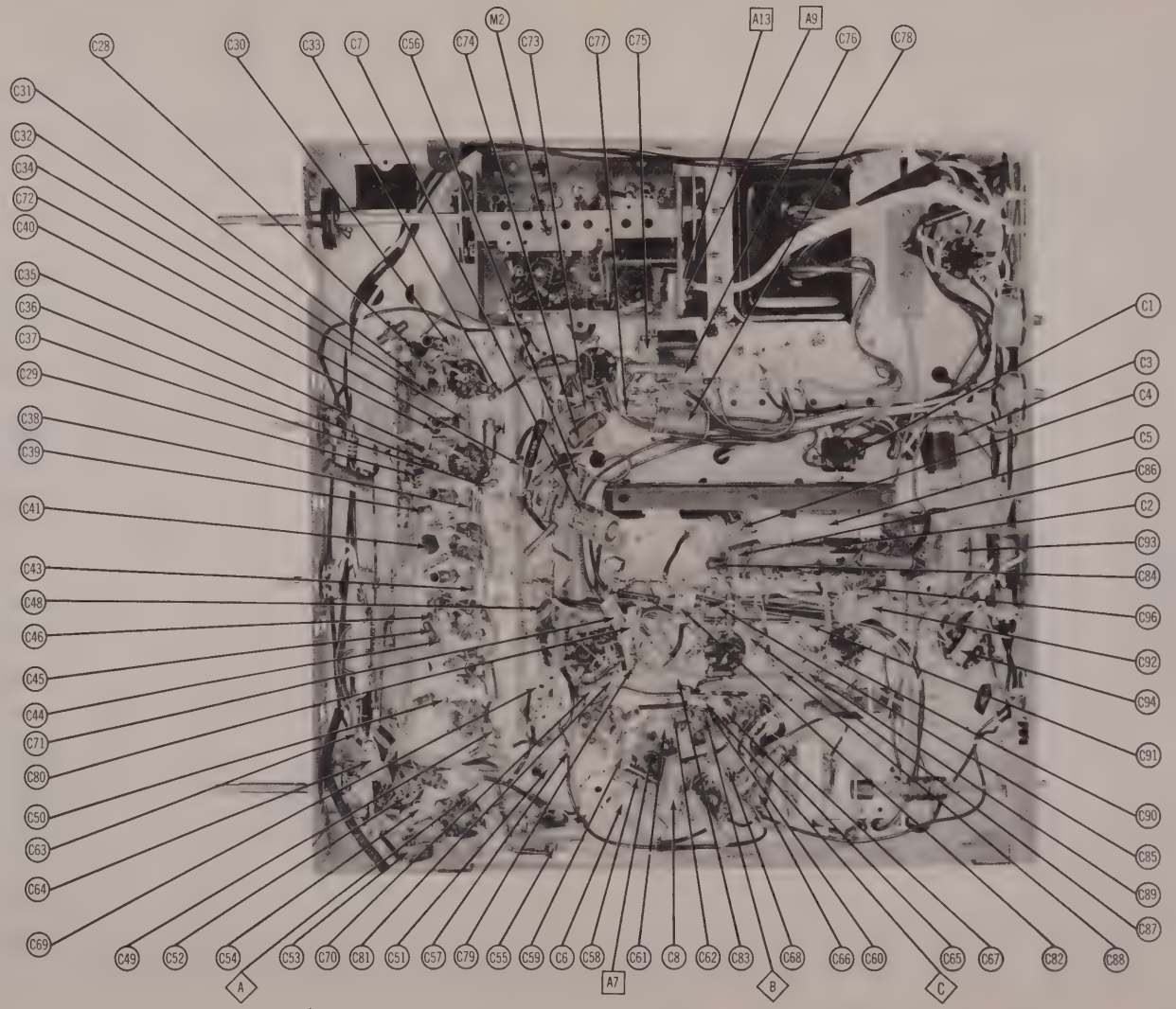
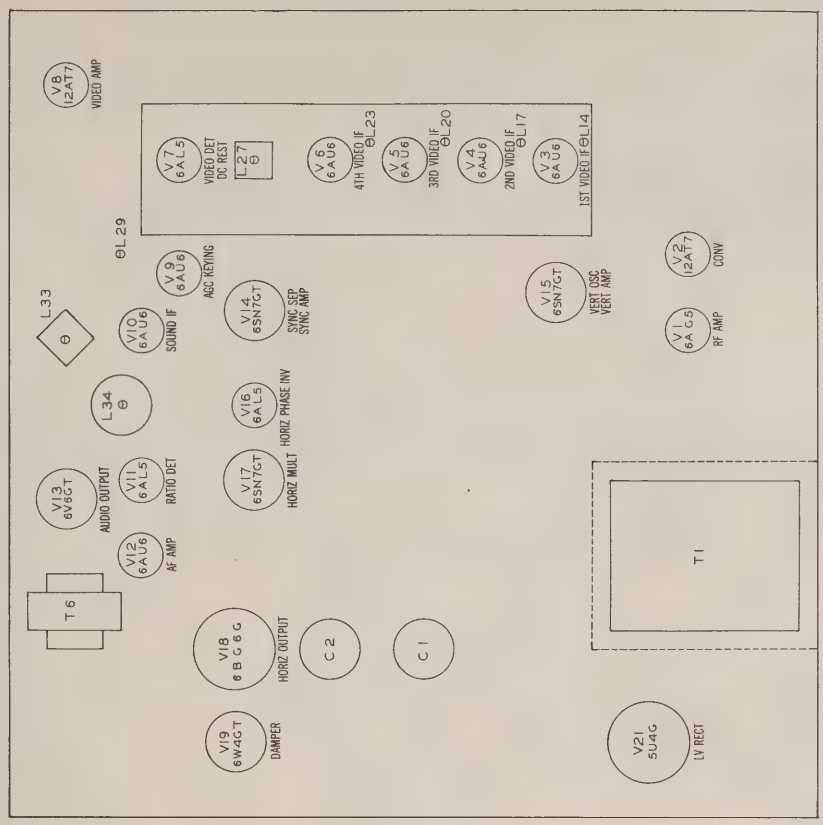
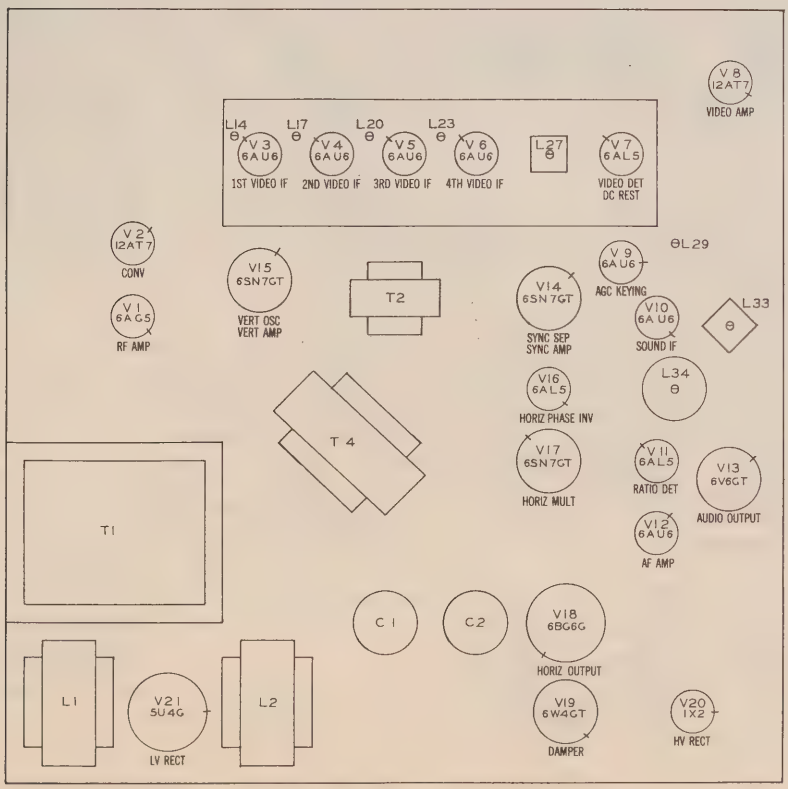
CHASSIS TOP VIEW



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION





TOP VIEW

TUBE PLACEMENT CHART

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube to disable the high voltage.

VIDEO IF ALIGNMENT

The sets with model numbers ending in "A" have a different alignment than the sets with numbers ending in "B". Both alignments are given in the table. The alignment frequencies for the "A" versions will be indicated by an osterisk (*), the frequencies for the "B"versions will be indicated by a dagger (†).
Tune to a channel which causes no interference. To check for interference turn the tuning control slightly, if the VTVM reading changes tune to another position.
Turn the contrast control to maximum clockwise.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over converter tube, (V2). Low side to chassis.	* 26.5MC †26.4MC (unmod.)	See note above.	DC probe to Point (A). Common to chassis.	A1, A2	Adjust for maximum deflection. Attenuate signal gen. to maintain 1 volt reading.
2.	"	"	* 24.1MC †23.4MC	"	"	A3, A4,	"
3.	"	"	*25.4MC †25MC	"	"	A5	"

OVERALL VIDEO IF RESPONSE CHECK

See note under Video IF alignment concerning A & B version models.
Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
Tune to a position which causes no interference. To check for interferebce turn the tuning control slightly, if the response curve changes tune to another position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	Direct	High side to an ungrounded tube shield floating over converter tube, (V2). Low side to chassis.	25MC (10MC swp.)	* 23.75MC † 23 MC *† 26.75MC	See note	Vert. amp. thru 10KΩ to Point (A). Low side to chassis.		Check for response curve similar to Fig. 1. If necessary retouch A1 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point (B) to chassis. The junction of these two resistors is alignment Point (D) as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5.	.001MFD	High side to Point (A). Low side to chassis.	4.5MC (unmod.)	Any channel not used locally.	DC probe to Point (B). Common to chassis.	A6, A7	Adjust for maximum deflection.
6.	"	"	"	"	DC probe to Point (C). Common to Point (D).	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.
Short antenna terminals.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	.001MFD	High side to Point (A). Low side to chassis.	4.5MC (450KC swp.)	4.5MC	Any channel not used locally.	Vert. amp. to Point (B). Low side to chassis.	A6, A7	Disconnect stabilizor capacitor C8. Adjust for maximum amplitude and symmetry as per Fig. 2.
6.	"	"	"	"	"	Vert. amp. to Point (C). Common to chassis.	A8	Reconnect capacitor C8. Adjust A8 so 4.5MC occurs at center of crossover lines as per Fig. 3. SLIGHTLY retouch A7 for maximum amplitude and straightness of crossover lines.

TUNER ALIGNMENT

Pre-set the trimmer screws as shown in Fig. 5. Turn the core carriage bar to the extreme top of its stroke with the band switch in low band position.
Adjust all cores so that the cores extend to 1.6 inches above the coil mounting clip.
Turn the low band oscillator coil, (L11), core an additional 4 turns out of the coil.
It should be noted that the RF response curve for sets having model numbers ending in "A" has a different shape than the curves for the "B" versions.
Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizxontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

LOW BAND ALIGNMENT

If trimmer A10 reaches maximum capacity and more capacity is needed, turn the core of L8 into the coil.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	85MC (10MC swp.)	83.25MC 87.75MC	6	Vert. amp. thru 10KΩ to Point (A). Low side to chassis.	A9, A10 A11	Adjust for maximum amplitude of response.
8.	"	"	"	"	"	"	A12	Adjust to place video markers at 50% on response curve as shown in Fig. 4.
9.	"	"	63MC (10MC swp.)	61.25MC 65.75MC	3	"		Adjust tuning control to place video marker at 50% on response curve for each channel. If necessary retouch A10 and A11 for compromise which gives best overall response across the low band channels.
			69MC (10MC swp.)	67.25MC 71.75MC	4			
			79MC (10MC swp.)	77.25MC 81.75MC	5			
			57MC (10MC swp.)	55.25MC 59.75MC	2			

ALIGNMENT INSTRUCTIONS (CONT.)

HIGH BAND ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
10.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC swp.)	211.25MC 215.75MC	13	Vert. amp. thru 10KΩ to Point (A). Low side to chassis.	A13, A14, A15	Adjust for maximum amplitude of response.
11.	"	"	"	"	"	"	A16	Adjust to place video marker at 50% on response curve as shown in Fig. 4.
12.	"	"	207MC (10MC swp.)	205.25MC 209.75MC	12	"		Adjust tuning control until video marker appears at 50% on response curve on each channel. If necessary retouch A14 & A15 for compromise which gives best overall response across the high band channels.
			201MC (10MC swp.)	199.25MC 203.75MC	11			
			195MC (10MC swp.)	193.25MC 197.75MC	10			
			189MC (10MC swp.)	187.25MC 191.75MC	9			
			183MC (10MC swp.)	181.25MC 185.75MC	8			
			177MC (10MC swp.)	175.25MC 179.75MC	7			

4.5MC TRAP ADJUSTMENT

After alignment is completed and set restored to original operation connect an antenna and tune in a strong station. Adjust the tuning control until sound bars just begin to appear in the picture.
Adjust the trap core, (A17), until any evidence of 4.5MC interference (grain appearance in horizontal lines) is eliminated.

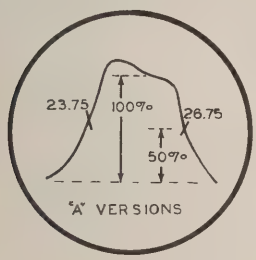


FIG.1A

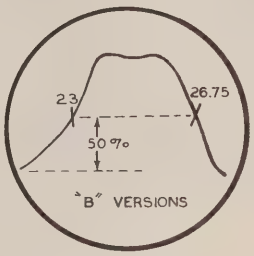


FIG.1B

FIG. 2

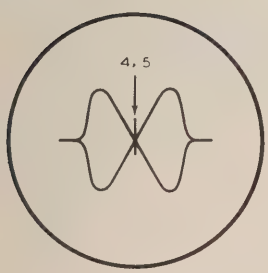


FIG. 3

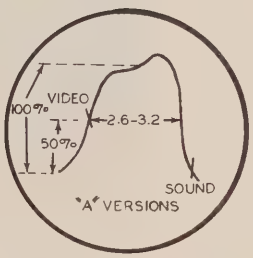


FIG.4A

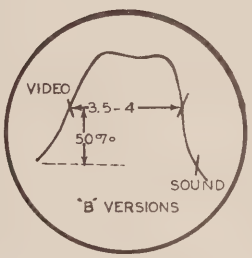


FIG.4B

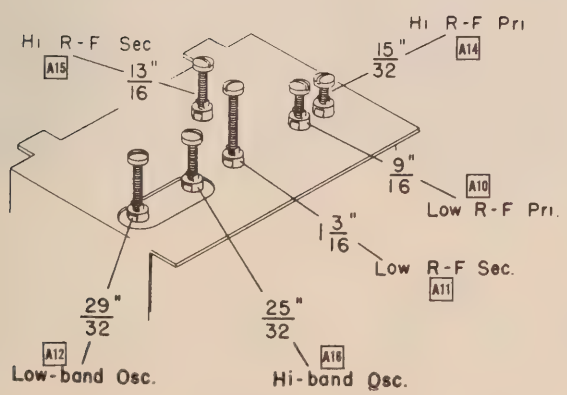


FIG. 5

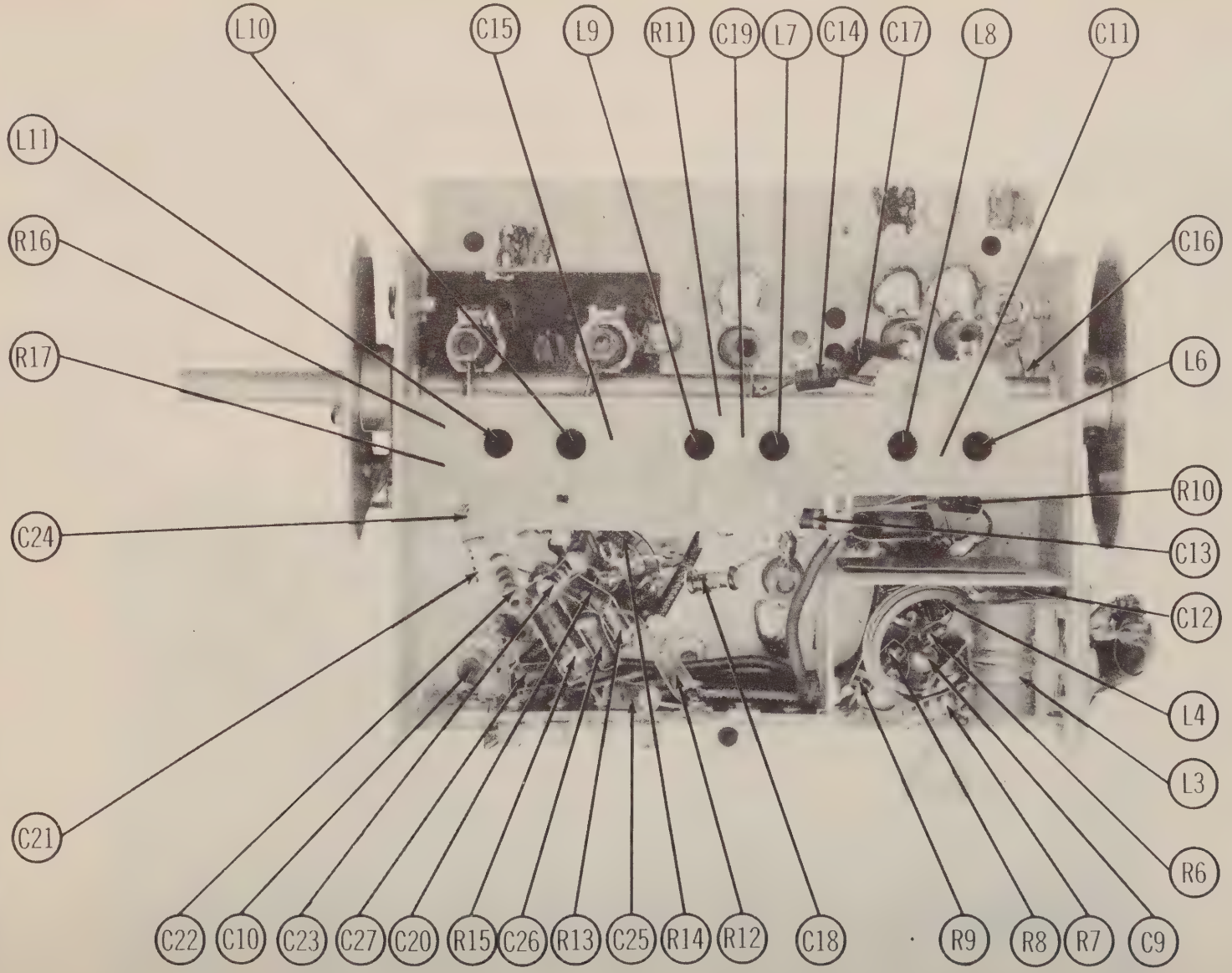
ALIGNING TRIMMERS

The dimensions shown are approx. from the shoulder of screw head to mounting base

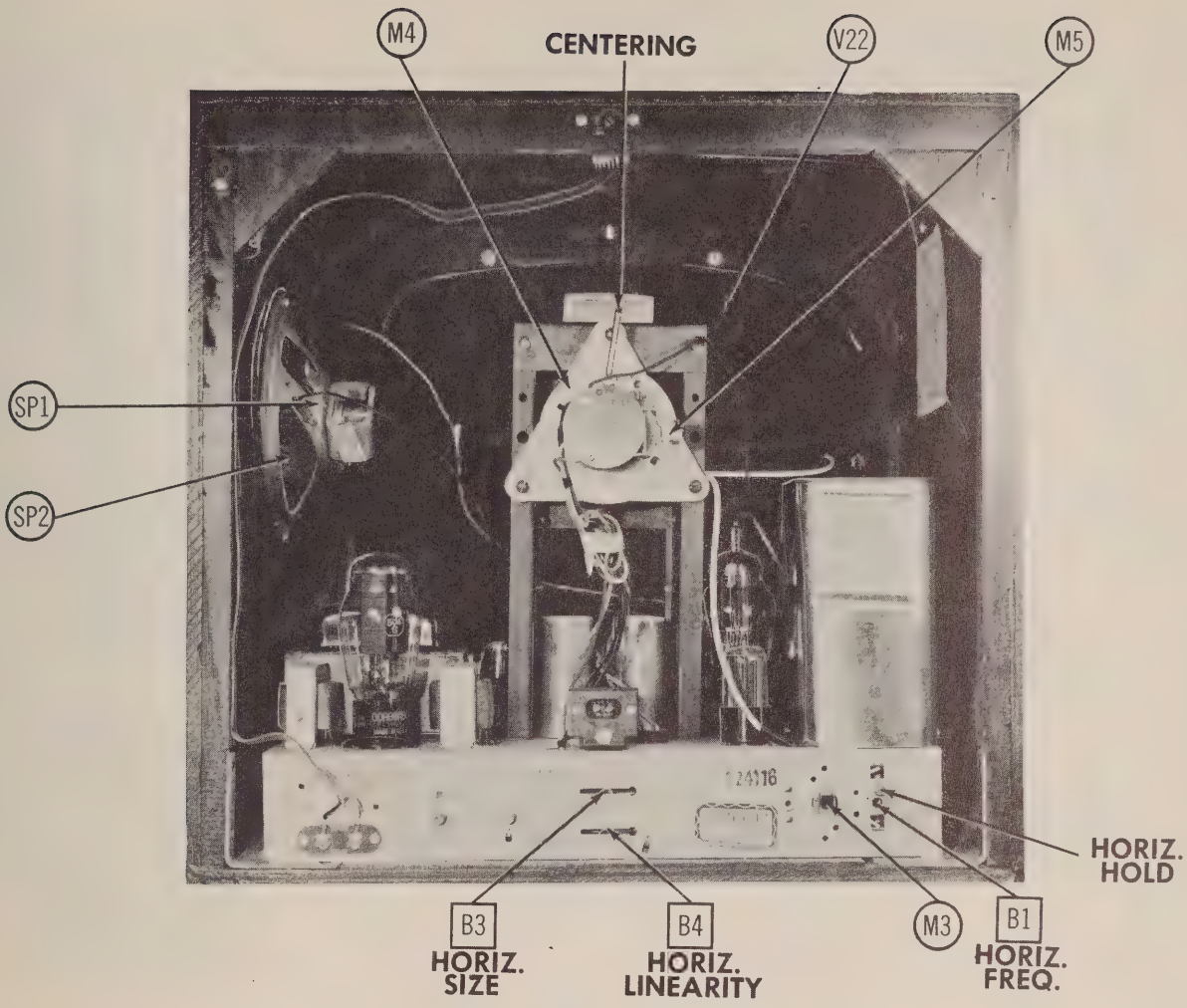
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	43KΩ	68Ω	.1Ω	0Ω	†2.8KΩ	†3.8KΩ	68Ω		
V 2	12AT7	†9.3KΩ	10KΩ	0Ω	0Ω	0Ω	†2.8KΩ	68KΩ	1.2KΩ	.1Ω
V 3	6AU6	90KΩ	0Ω	0Ω	.1Ω	†2.8KΩ	†2.8KΩ	82Ω		
V 4	6AU6	90KΩ	0Ω	0Ω	.1Ω	†2.8KΩ	†2.8KΩ	82Ω		
V 5	6AU6	90KΩ	0Ω	0Ω	.1Ω	†2.8KΩ	†2.8KΩ	82Ω		
V 6	6AU6	2.3Ω	0Ω	0Ω	.1Ω	†6.6KΩ	†68KΩ	120Ω		
V 7	6AL5	.8Ω	0Ω	.2Ω	0Ω	1Meg	0Ω	3.9KΩ		
V 8	12AT7	†6.3KΩ	1.2Meg	800Ω	0Ω	0Ω	†8KΩ	3.9KΩ	0Ω	.1Ω
V 9	6AU6	†19KΩ	†6.3KΩ	¶0Ω	¶.1Ω	90KΩ	†60Ω	†6.3KΩ		
V 10	6AU6	3.1Ω	0Ω	0Ω	.1Ω	†5KΩ	†5KΩ	120Ω		
V 11	6AL5	0Ω	22KΩ	.1Ω	0Ω	INF	0Ω	INF		
V 12	6AU6	10Meg	0Ω	.1Ω	0Ω	†470KΩ	†1.8Meg	0Ω		
V 13	6V6GT	0Ω	0Ω	†1.5KΩ	†1.1KΩ	470KΩ	†60Ω	.1Ω	820Ω	
V 14	6SN7GT	4.7Meg	6.1KΩ	0Ω	2.2Meg	†47KΩ	0Ω	0Ω	.1Ω	
V 15	6SN7GT	1.6Meg	#1.1Meg	0Ω	1Meg	#725Ω	1.3KΩ	.1Ω	0Ω	
V 16	6AL5	2.2Meg	150KΩ	0Ω	.1Ω	2.2Meg	0Ω	4.5Meg		
V 17	6SN7GT	4.4Meg	†5.7KΩ	1.5KΩ	120KΩ	†270KΩ	1.5KΩ	.1Ω	0Ω	
V 18	6BG6G	INF	0Ω	0Ω	1Meg	1Meg	90KΩ	.1Ω	†4.8KΩ	Top Cap #37Ω
V 19	6W4GT	INF	INF	†3.7KΩ	#9Ω	†75Ω	#6Ω	¶.1Ω	¶0Ω	
V 20	1X2	PINS 1 - 9 HAVE IN RESISTANCE								Top Cap #220Ω
V 21	5U4G	INF	25KΩ	INF	32Ω	400KΩ	30Ω	400KΩ	25KΩ	
V 22	17BP4	0Ω	1Meg	Pin 10 #1KΩ	Pin 11 125KΩ	Pin 12 .1Ω				

ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM PIN 8 OF V21
# MEASURED FROM PIN 3 OF V19
¶ MEASURED FROM 160 VDC LINE



RF TUNER-BOTTOM VIEW



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Turn the horizontal hold thumbscrew fully clockwise and then 2 full turns counter-clockwise.

Adjust the horizontal frequency slug, (B1), to the center of the range over which the picture synchronizes horizontally. Any subsequent adjustments of the horizontal frequency should be made with the horizontal hold thumbscrew.

Adjust the horizontal drive trimmer, (B2), counter-clockwise as far as possible without crowding or bright vertical lines appearing in the picture.

Adjust the horizontal slug, (B3), until the picture is slightly wider than necessary to fill the mask horizontally.

Adjust the horizontal linearity slug, (B4), until the picture is symmetrical from left right.

Since both horizontal size and linearity are effected by the drive trimmer it may be necessary to adjust them alternately for best results.

DISASSEMBLY INSTRUCTIONS

1. Remove 4 screws from back cover. Remove cover.
2. Remove 5 push-on type control knobs.
3. Disconnect speaker, picture tube and built-in antenna.
4. Remo ve speaker mounting nuts. Remove speaker.

Note: For picture tube removal it is necessary to remove chassis as outlined above.

PROPERTY OF
D. F. BLANKEN
3924 MEAD
DENVER, COL

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No	USE	REPLACEMENT DATA: CORONADO Part No.	STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	RF Amp		6AG5	7BD	
V2	Converter		12AT7	8A	
V3	1st Video IF Amp.		6AU6	7BK	
V4	2nd Video IF Amp		6AU6	7BK	
V5	3rd Video IF Amp		6AU6	7BK	
V6	4th Video IF Amp		6AU6	7BK	
V7	Video Det.-DC Rest		6AL5	6BT	
V8	Video Amp.		12AT7	8A	
V9	Keyed AGC		6AU6	7BK	
V10	Sound IF Amp.		6AU6	7BK	
V11	Ratio Det.		6AL5	6AL5	
V12	A-F Amp.		6AU6	7BK	
V13	Audio Output		6V6GT	7AC	
V14	Sync. Sep.-Sync. Amp		6SN7GT	8BD	
V15	Vert. Osc. -Vert. Amp		6SN7GT	8BD	
V16	Horiz. Phase Det.		6AL5	6BT	
V17	Horiz. Mult.		6SN7GT	8BD	
V18	Horiz. Output		6BG6G	5BT	
V19	Damper		6W4GT	4CG	
V20	HV Rect		1X2	9T	
V21	LV Rect		5U4G	5T	

CATHODE-RAY TUBE

ITEM No	REPLACEMENT DATA: CORONADO Part No.	SYLVANIA Part No.	THOMAS Part No.	RTMA BASE TYPE	NOTES
V22	17BP4	17BP4A	17BP4 *	12D	* Add HV Filter capacitor to circuit

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO Part No.	AEROVOX Part No.	CENTRALAB Part No.	CORNELL-DUBILIER Part No.	ERIE Part No.	SPRAGUE Part No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	30	450	8C-18487	AFH4-82		UPT409		TVL-3759 TVA-1207	⊕ Filter ▲ Filter
B	30	450							▲ Vert. Amp. Cathode
C	125	25							⊕ Filter
C2A	60	450	8C-17845	AFH3-40		UPT36145		TVL-3790	▲ Audio Output Dec.
B	30	450							▲ Decoupling
C	10	450							
C3	8	450	8C-13453	PRS450/8		BR845A		TVA-1704	Decoupling
C4	8	450	8C-13453	PRS450/8		BR845A		TVA-1704	Decoupling
C5	20	150	8C-19546	PRS150/20	*	BR2015A		TVA-1410	Decoupling
C6	10	50	8C-17183	PRS50/10		BR105		TVA-1304	Audio Output Cathode
C7	5	50	8C-11424	PRS150/4		BR550		TVA-1302	AGC Filter
C8	10	75	8C-15564	PRS150/12		BR1015		TVA-1406	Stabilizing Cap.
C9	220		8G-16045	S1220	D6-221		GP2K-221	5GA-T22	RF Coupling
C10	1000		8G-13201	SI1000	D6-102		GP2L-102	5HK-D1	RF Amp. Plate Dec.
C11	1000		8G-13201	SI1000	D6-102		GP2L-102	5HK-D1	RF Amp. Screen Bypass
C12	5000		8G-13962	BPD-005	DD-502		811-005	5HK-D5	RF Amp. Cathode Bypass
C13	.68		8G-12495-1		TCZ-.68		NP0K-R68		RF Coupling
C14	1.5		8G-12495-8	SI1.5NP0	TCZ-1.5		NP0K-1R5		RF Coupling
C15	2.2		8G-12495-4		TCZ-2.2		NP0K-2R2		RF Coupling
C17	150		8G-13201		TCZ-15		NP0K-150	5TCC-Q15	Fixed Trimmer
C18	15		8G-13017		D6-102		GP2L-102	5HK-D1	Fixed Trimmer
C19	1000		8G-13201	SI1000			NP0K-040		Fixed Trimmer
C18	4		8G-19314		D6-102		GP2L-102	5HK-D1	Fixed Trimmer
C19	1000		8G-13201	SI1000			NP0K-010		Osc Coupling
C20	1		8G-12495-2		TCZ-1		N750L-510		Osc Feedback
C21	51		8G-11891		TCN-51				Fixed Trimmer
C22	2.5		8G-19568						Fixed Trimmer *
C23	15		8G-13017		TCZ-15		NP0K-150	5TCC-Q15	Fixed Trimmer
C24	7		8G-19572				N470K-070		Fixed Trimmer
C25	1000		8G-13201	SI1000	D6-102		GP2L-102	5HK-D1	RF Bypass
C26	51		8G-11891		TCN-51		N750L-510		Mixer Cathode Bypass
C27	220		8G-16045	SI220	D6-221		GP2K-221	5GA-T22	Conv. Fil. Bypass
C28	5000		8 G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	RF Bypass
C29	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	RF Bypass
C30	100	500	8F3-8	1468-00005	D6-101	5WST1	GP1K-101	1FM-31	IF Coupling
C31	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	AGC Filter
C32	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	1st Video IF Dec. †
C33	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	1st Video IF Fil.
C34	47	500	8F3-109	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	IF Coupling
C35	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	AGC Filter
C36	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	2nd Video IF Dec.
C37	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	2nd Video IF Fil.
C38	47	500	8F3-109	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	IF Coupling
C39	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	AGC Filter
C40	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	AGC Filter
C41	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	3rd Video IF Dec. †
C42	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	3rd Video IF Fil. *
C43	47	500	8F3-109	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	IF Coupling
C44	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	4th Video IF Plate
C45	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	4th Video IF Screen
C46	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D1	4th Video IF Cathode
C47	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	RF Bypass
C48	1000		8G-13201	SI1000	D6-102	1WSD1	GP2L-102	5HK-D5	Video Det. Fil. Bypass
C49	5		8G-12186		TCZ-4.7		NP0K-050		Video Det. Filter
C50	100	500		1469-0001		5R5T1	GP1K-101	1FM-31	Fixed Trimmer
C51	100	500	8F1-113	1468-0001	D6-101	5WST1	GP1K-101	1FM-31	MG-31 Video Coupling
C52	01	400	8D-17270	P488-01	D6-103	P7SE81	GP2-333-103	4TM-81	Video Coupling
C54	22		8G-11892		TCN-22		N750K-220	5TCU-Q22	Video Amp. Cathode
C55	.1	600	8D-17990	P688-1	DF-104	PTE6P1		6TM-P1	Video Coupling
C56	1	200	8D-17259	P288-1	DF-104	PTE4P1		5TM-P1	AGC Filter
C57	3.3			SI3.3NP0	TCZ-3.3		NP0K-3R3		Sound IF Coupling
C58	.002	600	8D-15635	P688-002	D6-202	PTE6D2	GP2-333-202	6TM-D3	Sound IF Decoupling
C59	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	Sound IF Cathode
C60	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	RF Bypass
C61	580	500			D6-561	1WST6	GP2K-561	MG-36	Diode Load Cap. †
C62	2000		8G-19522	SI2000	D6-202	1WSD2	GP2-333-202	5HK-D2	De-emphasis

PARTS LIST AND DESCRIPTIONS

CAPACITORS (CONT.)

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO Part No.	AEROVOX Part No.	CENTRALAB Part No.	CORNELL-DUBILIER Part No.	ERIE Part No.	SPRAGUE Part No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C63	.01	200	8D-17258	P288-01	D6-103	PTE4S1	GP2-333-103	2TM-S1	Audio Coupling
C64	.02	200	8D-17268	P488-02	DF-203	PTE4S2		2TM-S2	Tone Comp.
C65	.01	200	8D-17270	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
C66	.1	400	8D-17990	P488-1	DF-104	PTE4P1		4TM-P1	AF Amp Screen Bypass
C67	.01	400	8D-17270	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
C68	.005	600	8D 19258	P688-005	D6-502	PTE6D5	GP2-333-502	6TM-D5	Audio Output Plate
C69	470	500	8F3-121	1468-00005	D6-471	5WS75	GP2K-471	1FM-25	Sync. Coupling
C70	.1	200	8D-17259	P288-1	DF-104	PTE4P1		2TM-P1	Sync. Coupling
C71	.01	400	8D-17270	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Vert. Integrator Net.
C72	.005	400	8D-17608	P488-005	D6-502	PTE6D5	GP2-333-502	6TM-D5	Vert. Sync. Coupling
C73	.02	200	8D 17268	P488-02	DF-203	PTE4S2		2TM-S2	Vert. Integrator Net.
C74	.05	400	8D-14461	P488-05	DF-503	PTE4S5		4TM-S5	Vert. Discharge
C75	.25	400	8D-17764	P488-25		GT4-P25		4TM-P25	Vert. Sweep Coupling
C76	.05	400	8D-14461	P488-05	DF-503	PTE4S5		4TM-S5	Vert. Sweep Coupling
C77	.02	200	8D-17268	P488-02	DF-203	PTE4S2		2TM-S2	Integrator Net.
C78	.1	600	8D-18861	P688-1	DF-104	PTE6P1		6TM-P1	Vert. Sweep Coupling
C79	470	500	8F3-121	1468-0005	D6-471	5WS75	GP2K-471	1FM-35	Horiz. Sync. Coupling
C80	220	500	8F3-117	1469-00025		5RST25			Horiz. Feedback
C81	680	500	8F3-123	1479-0007		2RST7		MS-37	Voltage Divider
C82	220	500	8F3-117	1469-00025		5RST25			Horiz. Feedback
C83	680	500	8F3-123	1479-0007		2RST7		MS-37	Voltage Divider
C84	.02	200	8D-17269	P288-02	DF-203	PTE4S2		2TM-S2	AFC Filter
C85	2000		8G-18049	S12000	D6-302	1WSD2	GP2-333-202	5HK-D2	AFC Filter
C86	1500	500	8F11-123	1484-004		1DR5D4			Fixed Trimmer
C87	220	500	8F3-117	1469-00025		5RST25			Horiz. MV Feedback
C88	330	500	8F3-119	1469-00035					Horiz. Discharge
C89	001	600	8D-19193	P688-001	D6-102	PTE6D1	GP2L-102	6TM-D1	Horiz. Sweep Coupling
C90	47		8G-12198	SI47NT50	TCN-47		N750K-470	5TCU-Q47	Horiz Feedback
C91	820	500	8F3-124						Horiz. Voltage Divider
C92	.1	600	8D-18861	P688-1	DF-104	PTE6P1		6TM-P1	Horiz. Output Screen
C93	.15	200	8D-15667	P288-15				2TM-D15	Horiz. Sweep Coupling
C94	.02	200	8D-17268	P488-02	DF-203	PTE4S2		2TM-S2	Damper Filter
C95	150	1500	8G-19498						Fixed Trimmer
C96	5000		8G-13962	BPD-005	DD-502	1DSD5	811-005	5HK-D5	RF Bypass

* Not used in all models.
† Some models use 1000MMF in this application (Part No. 8G-13201)
‡ Some models use 820MMF in this application. (Part No. 8F3-124)

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO Part No.	IRC Part No.	CLAROSTAT Part No.	CENTRALAB Part No.	INSTALLATION NOTES
R1A	5KΩ	½	10A-18441	"Concentrikit" B17-114 * B18-137K * E202 * 76-1 *	RTV-318	SBBT-617-B	Contrast Control - Panel
B	1Meg						Volume Control - Rear, TApped @ 100KΩ
C	Shaft End						Attach per instruction in Concentrikit.
D	Switch						Attach per instruction in Concentrikit.
R2A	5KΩ	½	10B-19218	QU-114	AM-19-S	AN-10	Vertical Linearity Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R2A per instructions.
R3A	50KΩ	½	10B-17764	QU-123	AG-44-S	AN-31	Brightness Control
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Attach to R3A per instructions.
R4A	100KΩ	½	10B-17275	QU-128	AG-49-S	AN-40	Vertical Hold Control
B	Shaft		Not Req.	Not Req.	KSB-3	AK-4	Attach to R4A per instructions.
R5A	750KΩ	½	10B-19220	QU-181	AG-61-S		Vert. Size Control
B	Shaft		Not Req.		FKS-1/4		Attach to R5A per instructions.

* Additional parts to be used with "Concentrikit".

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO Part No.	IRC Part No.	IDENTIFICATION CODES ALL RESISTORS - 20% UNLESS OTHERWISE NOTED
R6	680Ω 10%	½	9B1-60	BTS-680	Antenna Coil Shunt
R7	470KΩ	½		BTS-470K	Antenna Isolation
R8	100KΩ 10%	½	9B1-74		AGC Network
R9	68Ω 10%	½	9B1-48		RF Amp. Cathode
R10	1000Ω	½	9B1-13	BTS-1000	RF Amp. Coil Shunt
R11	5600Ω 10%	½	9B1-71	BTS-5600	Mixer Grid Coil Shunt
R12	68KΩ	½	9B1-84		Mixer Grid Coil Shunt
R13	1200Ω 10%	½	9B1-63	BTS-1200	Mixer Cathode
R14	100KΩ 10%	½	9B1-74		Osc Grid
R15	8200Ω 10%	1	9B2-73		Osc. Plate
R16	10Ω 10%	½	9B1-38		Parasitic Suppressor
R17	10Ω 10%	½	9B1-38		Parasitic Suppressor
R18	1000Ω	½	9B1-13	BTS-1000	Decoupling See note 1.
R19	8200Ω 10%	½	9B1-73	BTS-8200	1st Video Amp. Grid
R20	82Ω 10%	½	9B1-49	BTS-82	1st Video Amp. Cathode
R21	1000Ω	½	9B1-13	BTS-1000	AGC Network: See note 1.
R22	1000Ω	½	9B1-13	BTS-1000	AGC Network See note 1.
R23	1000Ω	½	9B1-13	BTS-1000	AGC Network See note 1.
R24	1000Ω	½	9B1-13	BTS-1000	1st Video IF Amp. Decoupling See note 1.
R25	68000Ω 10%	½	9B1-72		2nd Video IF Amp. Grid See note 15
R26	82Ω 10%	½	9B1-49	BTS-82	2nd Video IF Amp. Ca Diode
R27	1000Ω	½	9B1-13	BTS-1000	2nd Video IF Amp. Decoupling See note 1.
R28	68000Ω 10%	½	9B1-72		3rd Video IF Amp. Grid See note 16
R29	82Ω 10%	½	9B1-49	BTS-82	3rd Video IF Amp. Cathode
R30	1000Ω	½	9B1-13	BTS-1000	3rd Video IF Amp. Decoupling See note 1
R31	68000Ω 10%	½	9B1-72		3rd Video IF Amp. Coil Shunt See note 16
R32	120Ω 10%	½	9B1-31	BTS-120	4th Video IF Amp. Cathode
R33	8200Ω	½	9B1-75		4th Video IF Amp. Coil Shunt See notes 2 and 17
R34	7400Ω	½			4th Video IF Amp. Coil Shunt See note 3
R35	68KΩ 10%	1	9B2-84	BTA-68K	4th Video IF Amp. Screen
R36	6500Ω	½	9B1-71		4th Video IF Amp. Plate Decoupling See note 4.
R37	1000Ω 10%	½	9B1-62	BTS-1000	Decoupling
R38	1Meg 10%	½	9B1-98		DC Resistor Cathode
R39	3900Ω	½	9B1-69	BTS-3900	Video Det. Diode Load
R40	10KΩ	½	9B1-74	BTS-10K	Isolation
R41	82000Ω 10%	½	9B1-86	BTS-8200	Video Amp. Plate
R42	1200Ω	1	9B1-62	BTA-1200	Video Amp. Plate See note 5.
R43	47KΩ	2	9B4-82	BTB-47K	Voltage Divider
R44	47000Ω	1	9B2-70	BTA-4700	Voltage Divider
R45	1.25Meg	½	9B1-102		Video Amp. Grid See note 6.
R46	47KΩ	1	9B1-82	BTA-47K	Video Amp. Coil Shunt
R47	4700Ω	2	9B4-70	BTB-4700	Video Amp. Plate
R48	100Ω	½	9B1-50	BTS-100	Video Amp. Cathode
R49	22KΩ	½	9B1-78	BTS-22K	Picture Tube Grid

RESISTORS (CONT.)

ITEM No	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO Part No.	IRC Part No.	IDENTIFICATION CODES
R50	1200Ω	10	9M-19595	1 3/4A 1200	Voltage Divider - Wire Wound
R51	1500Ω	10	9M-19595	1 3/4A-1500	Voltage Divider - Wire Wound
R52	33KΩ	½	9B1-80	BTS-33K	AGC Network
R53	68KΩ 10%	½	9B1-84	BTS-68K	AGC Network
R54	2KΩ	½	9B1-66	BTS-2K	AGC Network See note 7
R55	2200Ω	½	9B1-66	BTS-2200	Sound IF Amp Decoupling
R56	120Ω	½	9B1-51	BTS 120	Sound IF Amp Cathode
R57	47KΩ	½	9B1-82		Tone Compensation
R58	20KΩ 5%	½	9B1-78		De-emphasis See note 8.
R59	22KΩ	½	9B1-78	BTS-22K	Ratio Det. Diode Load
R60	10Meg	½	9B1-37	BTS-10Meg	Audio Amp. Grid
R61	1.8Meg	½	9B1-101	BTS-1 8Meg	Audio Amp. Screen
R62	1000Ω	½	9B4-62	BTA-1000	Audio Amp Screen Decoupling
R63	470KΩ	½	9B1-29	BTS 470K	Audio Amp. Plate
R64	470KΩ	½	9B1-29	BTS-470K	Audio Output Grid
R65	820Ω	½	9B2-81	BTA-820	Audio Output Cathode
R66	4.7Meg 10%	½	9B1-106	BTS-4.7Meg	Sync. Separator Grid
R67	68KΩ	2	9B4-84	BTB-68K	Sync. Separator Plate
R68	68000Ω	½	9B1-73	BTS-6800	Sync. Separator Plate
R69	47KΩ	2	9B4-82	BTB-47K	Sync. Amp. Plate
R70	2.2Meg	½	9B1-102	BTS-2.2Meg	Sync. Amp. Cathode
R71	220KΩ	½	9B2-83	BTS-220K	Voltage Divider See note 8.
R72	220KΩ			BTS-220K	Voltage Divider See note 3.
R73	100KΩ 10%	½	9B1-88	BTS-100K	Picture Tube Cathode
R74	1000Ω	½	9B1-62	BTS-1000	Picture Tube Screen
R75	1.5Meg	½	9B1-100	BTS-1.5Meg	Vert. Osc. Grid
R76	47KΩ	½	9B1-82	BTS-47K	Voltage Divider
R77	390KΩ 10%	½	9B1-93	BTA-390K	Voltage Divider
R78	1000Ω 10%	½	9B1-62	BTS-1000	Vert. Amp. Cathode
R79	1Meg	½	9B1-98	BTS-1Meg	Vert Amp. Grid
R80	3.2KΩ	½	9B1-68		Vert. Peaking See note 10.
R81	50KΩ 5%	½	9B1-92		Integrator Network See note 11
R82	16KΩ	½	9B1-76		Vert. Blanking Network See note 12
R83	1000Ω 10%	½	9B1-62	BTS-1000	Vert. Blanking Network
R84	220KΩ	½	9B1-90	BTS-220K	Decoupling
R85	220KΩ	½	9B1-90	BTS-220K	Vert. Osc. Plate
R86	2.2Meg		9B1-102	BTS-2.2Meg	Phase Inverter Diode Load
R87	150KΩ		9B1-88	BTS-150K	Phase Inverter Diode Load
R88	150KΩ		9B1-88	BTS 150K	Phase Inverter Diode Load
R89	2.2Meg	½	9B1-102	BTS-2.2Meg	AFC Filter
R90	68KΩ 10%	½	9B1-84	BTS-68K	AFC Filter
R91	1Meg	½	9B1-98	BTS-1Meg	AFC Feedback
R92	600KΩ	½	9B1-96	BTS-390K	AFC Feedback See note 13
R93	1500Ω	½	9B1-64	BTS-1500	Horiz. MV Cathode
R94	5800Ω 10%	½	9B2-71	BTA-5800	Horiz. MV Plate
R95	270KΩ 10%	½	9B1-91	BTS-270K	Horiz. MV Plate
R96	120KΩ 10%	½	9B1-87	BTA-120K	Horiz. MV Grid
R97	220Ω	½	9B1-54		Parasitic Suppressor
R98	1Meg 10%	½	9B1-98	BTS-1Meg	Horiz. Output Grid
R99	47000Ω 10%	1	9B2-70	BTA-4700	Horiz. Output Screen
R100	3600Ω	1	9C12-2061	1 3/4A-3500	Voltage Divider - Wire Wound
R101	400KΩ	½	9B1-94		Isolation See note 14

Note 1. Some models use RF chokes in this application.
Note 2. Some models use a 12KΩ resistor in this application.
Note 3. Not used in all models.
Note 4. Some models use a 5600Ω resistor in this application.
Note 5. Some models use a 1000Ω resistor in this application.
Note 6. Some models use a 2.2Meg resistor in this application.
Note 7. Some models use a 2200Ω resistor in this application
Note 8. Some models use a 22KΩ resistor in this application.
Note 9. Some models use a 100KΩ resistor in this application.
Note 10. Some models use a 3300Ω resistor in this application.
Note 11. Some models use a 47KΩ resistor in this application.
Note 12. Some models use a 15KΩ resistor in this application.
Note 13. Some models use a 680KΩ resistor in this application.
Note 14. Some models use a 470KΩ resistor in this application.
Note 15. Model "B" Series use a 47000Ω resistor in this application.
Note 16. Model "B" Series use a 8200Ω resistor in this application.
Note 17. Model "B" Series use a 18KΩ resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: CORONADO Part No.	STANCOR Part No.	MERIT Part No.	CHICAGO Part No.
T1	117VAC @ 1.8A	640VCT .325ADC	5VAC @ 3A	6.3VAC @ 2.1A Sec. 4 6.3VAC @ 1.5A	12A-18839	P-8159 ①	P-3070	TP-405

① Add series resistor to reduce high voltage.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING: DC RESISTANCE PRI.	RATING: DC RESISTANCE SEC.	REPLACEMENT DATA: CORONADO Part No.	STANCOR Part No.	MERIT Part No	CHICAGO Part No	NOTES
T2	210Ω	1200Ω	12M-18241	A-8111 ②	A-3000 ② HV0-7 ③ & MWC-1	TBO-2 ②	Vert. Oscillator Trans.
T3	220Ω Tapped @ 30Ω @ 50 Sec. 2	9Ω Tapped 0Ω Sec. 3	201-19817-1				Horiz. Output Trans.
	21Ω Tapped @ 10.5Ω						
T4	690Ω Tapped @ 9Ω		13C-19048	A-8123	A-3037 ③		Vert. Output Trans.
T5A	14Ω		201-19490-1	DY-8	MDF-70		Horiz. Deflection Coils
B	50Ω						Vert. Deflection Coils

① Drill new mounting holes.
② Replace with coil with MWC-1
Use center-tapped secondary of MWC-1 as Sec. 2 of T3 (Observe Polarity)

PROPERTY OF
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EADE ST.
DENVER, COLORADO

CORONADO MODELS 15TV1-43-8957A, B, 15TV1-43-9015A, B, 15TV1-43-9016A, B

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CORONADO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T6	8KΩ	3.2Ω	450Ω	.4Ω	12C-18743	A-8114	A-2931	RO-13	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	CORONADO PART No.	JENSEN PART No.	QUAM PART No.	
SP1	P. M.	3.2Ω	18A-19895	ST-108 Mod. P6-X	6A1	
	CONE DIA.	V. C. DIA.				
SP2	6"	9/16"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	CORONADO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.225A	30Ω	1HY	16A-17959		C-2974		
L2	.225A	30Ω	1HY	16A-17959		C-2974		

COILS (RF-IF)

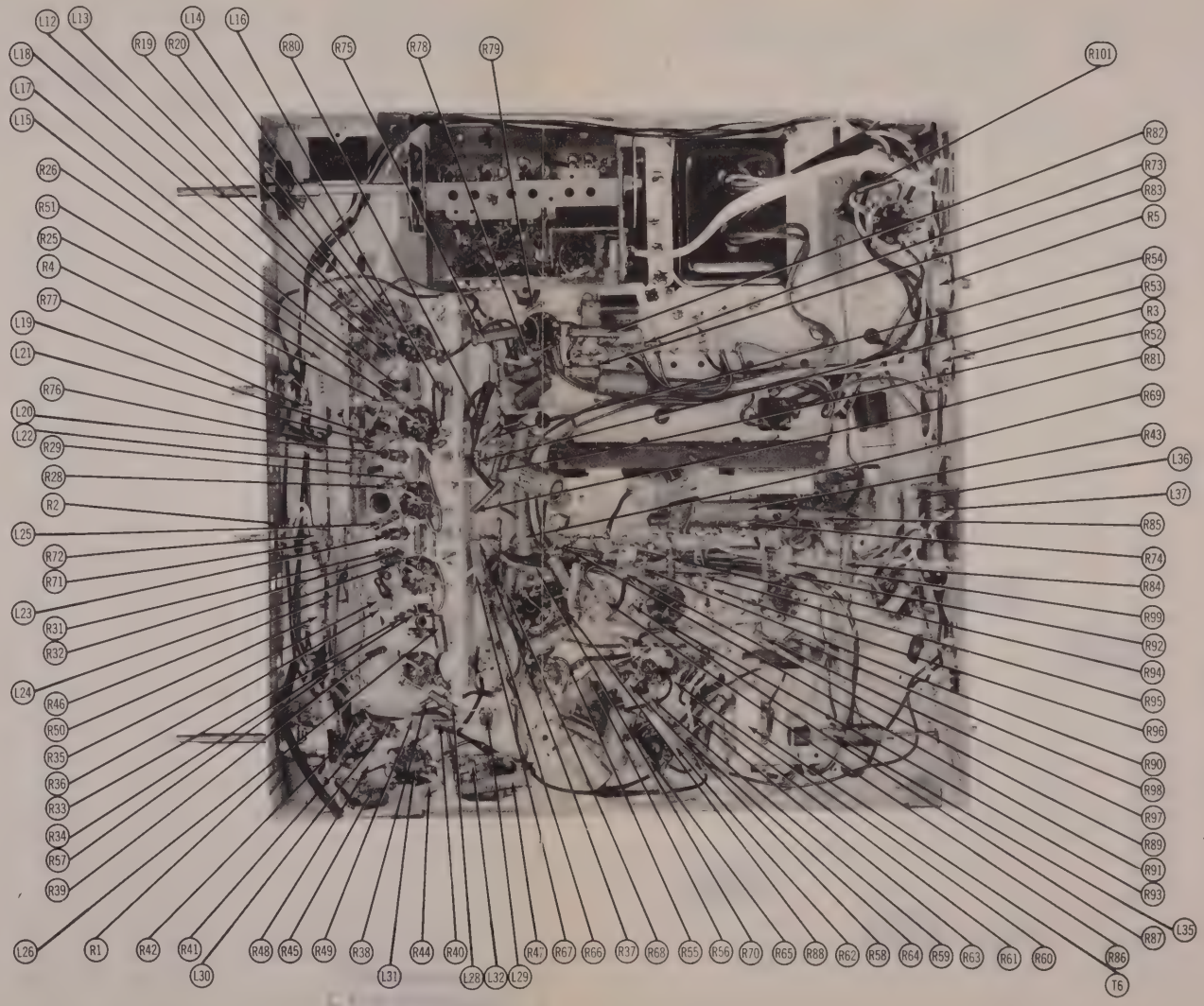
ITEM No.	USE	DC RES.		REPLACEMENT DATA			NOTES
		PRI.	SEC.	CORONADO PART No.	MERIT PART No.	IRC PART No.	
L3	Ant. Coil	0Ω	0Ω	201-17143			High Band
L4	Ant. Coil	.1Ω	.1Ω				Low Band (Part of L3)
L5	RF Choke	.7Ω		16A-17128			
L6	RF Coil Pri.	.1Ω		13E-17140			High Band
L7	RF Coil Sec.	.1Ω		13E-17140			High Band
L8	RF Coil Pri.	.1Ω		13E-12046			Low Band
L9	RF Coil Sec.	.1Ω		13E-12046			Low Band
L10	Osc. Coil	.1Ω		13E-17140			High Band
L11	Osc. Coil	.1Ω		13D-12155			Low Band
L12	Conv. Plate Choke	9.8Ω		16A-18025			
L13	Decoupling Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L14	1st Video IF	.3Ω		13M-19521			
L15	RF Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L16	Fil. Choke	.2Ω		16A-17937			
L17	2nd Video IF	.1Ω		201-15612			
L18	Decoupling Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L19	RF Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L20	3rd Video IF	.1Ω		201-15612			
L21	Decoupling Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L22	RF Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L23	4th Video IF	.1Ω		201-15612			
L24	Grid Choke	2.2Ω		201-15608			
L25	Decoupling Choke	1.8Ω		16A-18676 or 16B-16023		CLA	2.2Microhenries
L26	Fil. Choke	.2Ω		16A-17937			
L27	5th Video IF	1.2Ω	.7Ω	13B-19958			
L28	Peaking Coil	7Ω					83Microhenries
L29	4.5MC Trap	1.5Ω		201-20062			Includes L28, C51 & C57
L30	Peaking Coil	22Ω		16A-19365			410Microhenries
L31	Peaking Coil	6.7Ω		16A-19485			240Microhenries
L32	Peaking Coil	9Ω		16A-19486			380 Microhenries
L33	Sound IF	3Ω		13A-19514			
L34	Ratio Det. Trans.	3.8Ω	.1Ω	13M-19643			Tap @ .4Ω
L35	Horiz. Osc.	70Ω		13D-19540			
L36	Horiz. Size	.3Ω		13M-18233	MWC-2		
L37	Horiz. Lin.	5.5Ω		201-20186			Tap @ 1.8Ω
L38	Fil. Choke	1.3Ω		16A-19818			Some models use a 2.2Ω resistor in this application.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			CORONADO PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG Slo-Blo	1/4Amp	46B-18362	55F-18024	313.250	351005	

MISCELLANEOUS

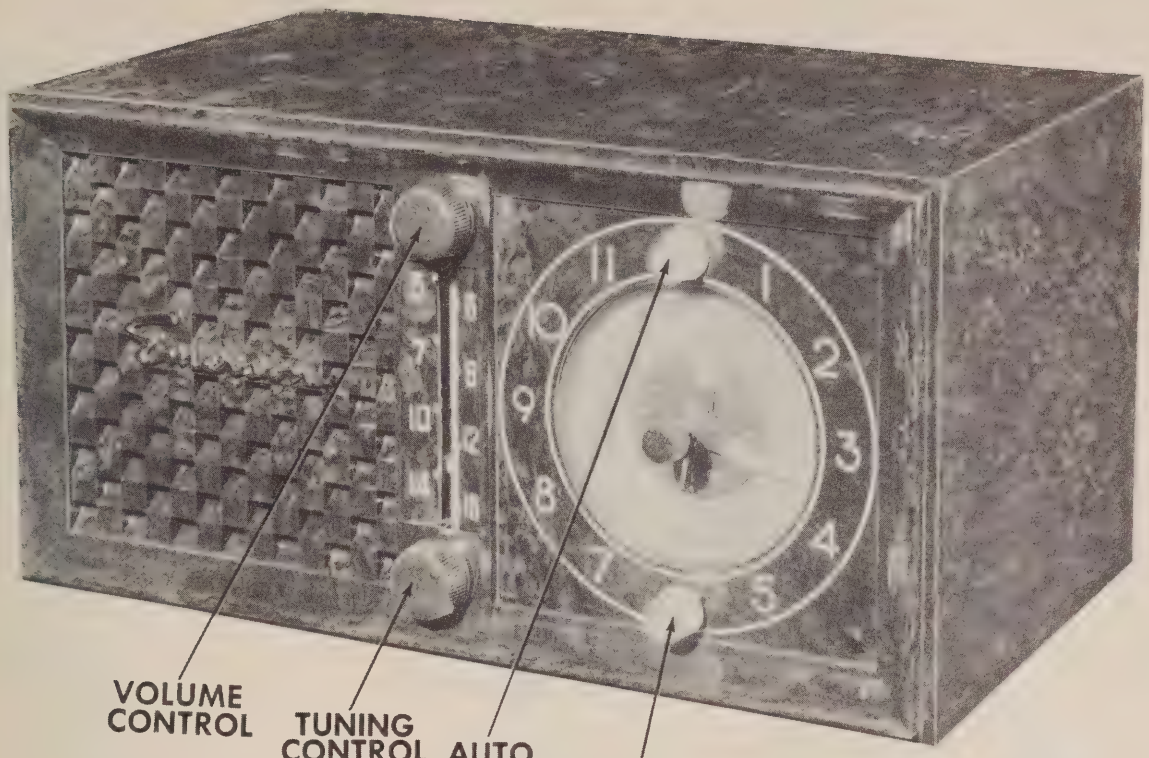
ITEM No.	PART NAME	CORONADO PART No.	NOTES
M2	RF Tuner		
M3	Switch	20F-12108	TV Phono
M4	Focus Magnet	55P-19600-1	
M5	Ion Trap	16M-19906	
B2	Trimmer	8E-18508	Horiz. Drive 80-480MMF
	Plate	2M-20011	Tuning (Model 8957A, 9015A)
	Plate	2M-20011-1	Tuning (Model 9016A)
	Plate	2M-20013	Contrast & Off/On Volume (Models 8957A & 9015A)
	Plate	2M-20013-1	Contrast & Off/On Volume (Models 9016A)
	Knob	5B-20009-76	Tuning (Models 8957A & 9015A)
	Knob	5B-20009-56	Tuning (Models 9016A)
	Knob	5B-19246-76	Contrast (Models 8957A & 9015A)
	Knob	5B-19246-56	Contrast (Model 9016A)
	Knob	5B-18244-76	Brightness & Vert. Hold (Models 8957A & 9015A)
	Knob	5B-18244-56	Brightness & Vert. Hold (Model 9016A)
	Knob	5B-18382-36	Antenna (All models)



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

EMERSON
MODEL 695B (Ch. 120146-B)

EMERSON
MODEL 695B (Ch. 120146-B)



EMERSON
MODEL 695B (Ch. 120146-B)

TRADE NAME	Emerson Model 695B (Ch. 120146 -B)
MANUFACTURER	Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York 11, N.Y.
TYPE SET	AC Operated AM Superheterodyne Receiver with Electric Clock
TUBES (FIVE)	Types 12BE6 Conv., 12BA6 IF Amp., 12AT6 Det.-AVC-AF Amp. 50C5 Audio Output, 35W4GT Rectifier
POWER SUPPLY	110-120 Volts AC - 60 Cycle — RATING .27 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	535-1620KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set bottom edge of pointer carriage even with dot at the upper end of dial backplate.
Use isolation transformer, if available. If not, connect a .1MFD capacitor in series with low side of signal generator and B-.
Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.001MFD	High side to stator on ant. section of tuning gang. Low side to B-.	455KC (400~ mod)	Tuning gang fully open.	Across voice coil.	A1, A2 A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2.		Loop	1620KC	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		"	1400KC	Tune for max. output.	"	A6	"

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RTMA BASE TYPE	INSTALLATION NOTES
V1	Converter	12BE6	12BE6	7CH	
V2	IF Amp.	12BA6	12BA6	7BK	
V3	Det.-AVC-AF Amp.	12AT6	12AT6	7BT	
V4	Audio Output	50C5	50C5	7CV	
V5	Rectifier	35W4GT	35W4GT	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: EMERSON PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	50	150	925212	PRS150/50-50		EDL5515		TVA-2453	Filter (Red)
B	50	150							Filter (Green)
C2	.05	400	923554	P488-05	DF-503	PTE4S5		4TM-S5	AVC Filter
C3A	220			SI220	D6-221	5W5T25	GP2K-221		Diode RF Filter
B	.002		470310	P688-002	D6-202	PTE6D2	GP2-333-202	34C3	Audio Coupling
C	220			SI220	D6-221	5W5T25	GP2K-221		AF Amp. Plate
D	.005			P688-005	D6-502	PTE6D5	GP2-333-502		Audio Coupling
C4	.02	400	923524	P488-02	DF-203	PTE4S2		4TM-S2	Audio Output Plate
C5	.047	400	922200	P488-047		PTE4S5		4TM-S47	Line Filter
C6	.05	400	923554	P488-05		PTE4S5		4TM-S5	Line Isolation

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	500KΩ	½	390186	Q13-133	AG-60-Z	BSK-60	Volume Control
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Attach to R1A per instructions.

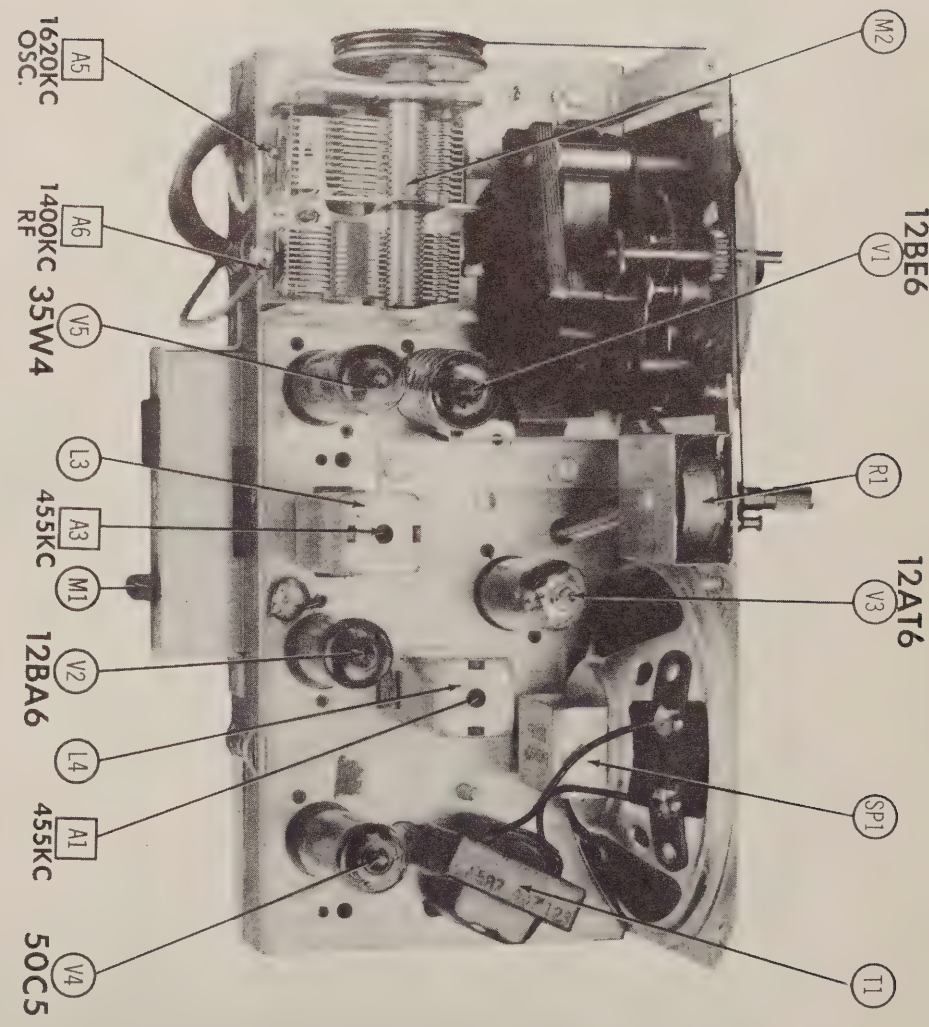
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	IRC PART No.	IDENTIFICATION CODES
R2	22KΩ	½		BTS-22K	Mixer Grid
R3	120Ω	½	340272	BTS-120	IF Amp. Cathode
R4	3.3Meg	½	351332	BTS-3.3Meg	AVC Network
R5	10Meg	½	351452	BTS-10Meg	AF Amp. Grid
R6	470KΩ	½	351132	BTS-470K	AF Amp. Plate
R7	470KΩ	½	351132	BTS-470K	Audio Output Grid
R8	150Ω	½	340292	BTS-150	Audio Output Cathode
R9	18Ω	½	340072		Rectifier Ballast
R10	1500Ω	1	380532	BTA-1500	Filter

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T1	1.7KΩ	3.2Ω	150Ω	.6Ω	734068	A-3332	A-3025	RO-2 ①	① Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

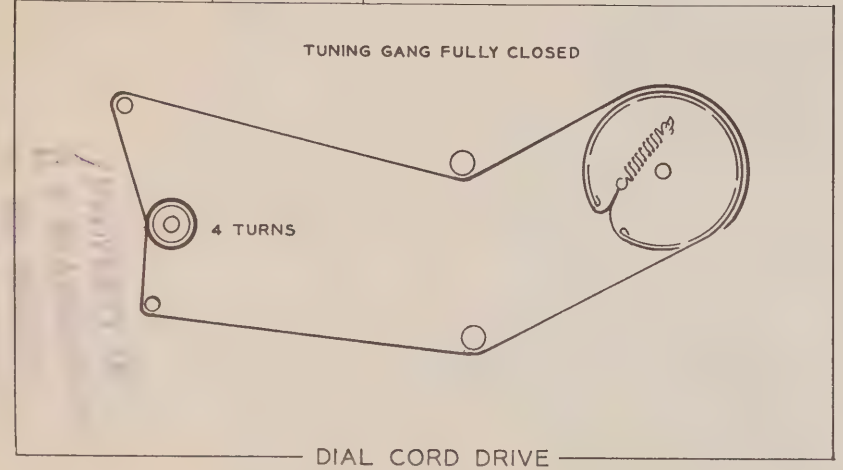
ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	EMERSON PART No.	VIKING PART No.	QUAM PART No.	
SP1A	P. M.	3.2Ω	180081	4J4		
	CONE DIA.	V. C. DIA.				
SP1B	4 "	9/16"				

COILS (RF-IF)

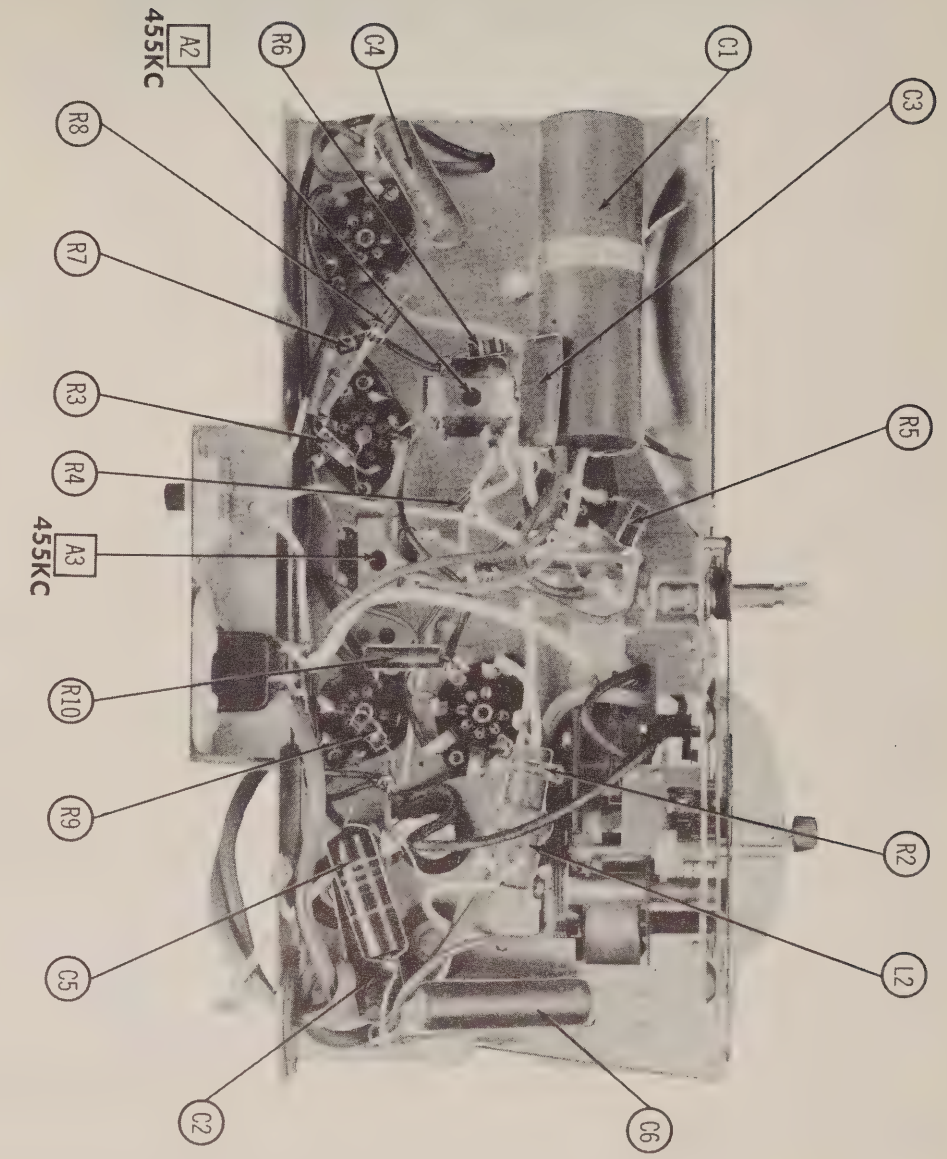
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	EMERSON PART No.	MERIT PART No.	
L1	Loop Ant.	3.8Ω		700062		
L2	Osc. Coil	.4Ω	6Ω	716064		
L3	Input IF	21.5Ω	21.5Ω	720055	BC-352	
L4	Output IF	17.5Ω	17.5Ω	720033	BC-353	

MISCELLANEOUS

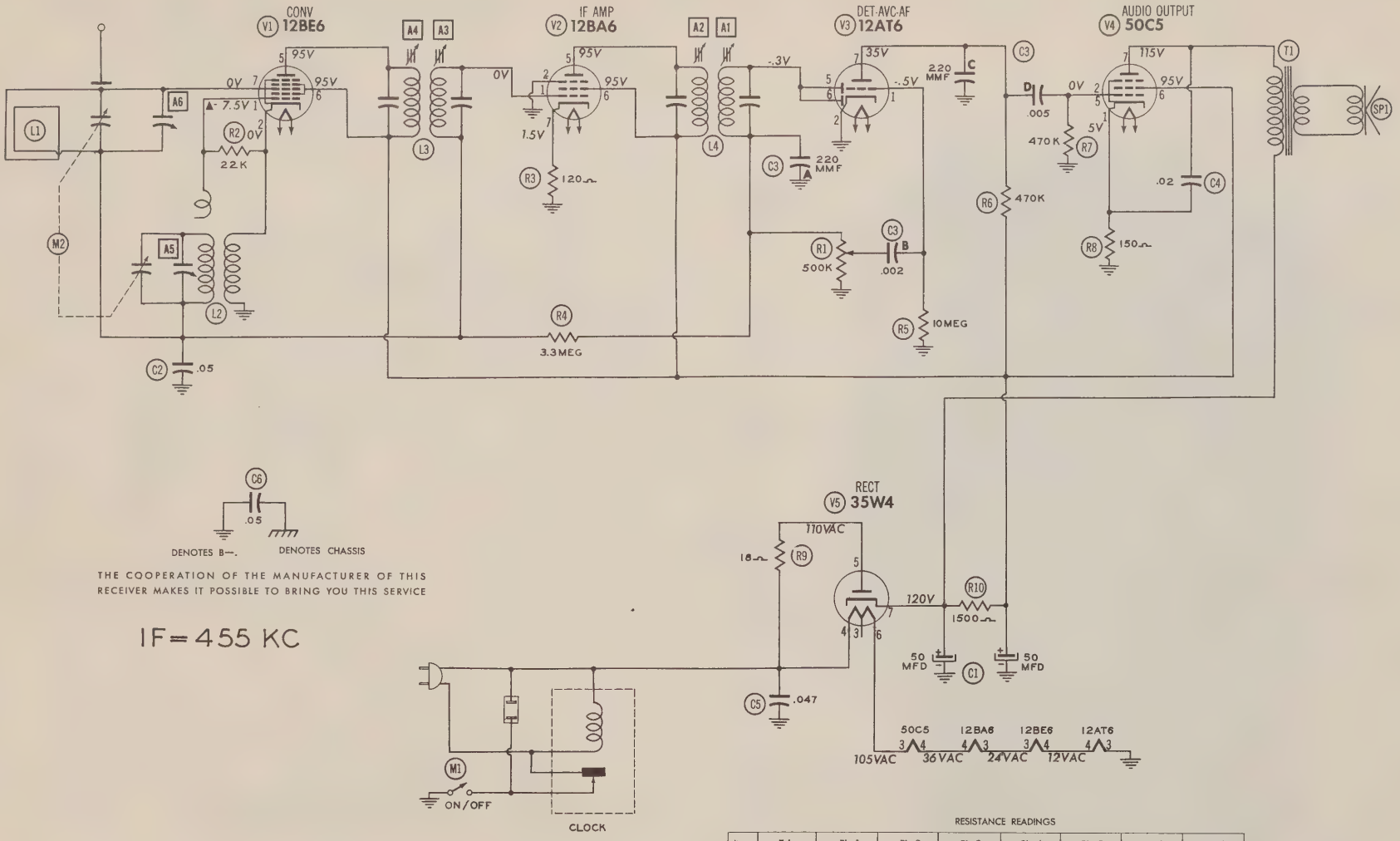
ITEM No.	PART NAME	EMERSON PART No.	NOTES
M1	Switch		Radio - On/Off
M2	2 Gang Var. Cap.	900084	(22-392MMF, 29-182MMF)
	Cabinet	140430	Brown
	Cabinet	140432	Ivory
	Clock	470672	
	Knob	450124	Radio - Brown
	Knob	450123	Radio - Ivory
	Knob	450245	Clock Switch
	Knob	280181	Clock Time Set
	Crystal	460242	Clock



CHASSIS—BOTTOM VIEW



EMERSON MODEL 695B



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

IF = 455 KC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	12BE6	22KΩ	.6Ω	24Ω	12Ω	†1.5KΩ	†1.5KΩ	3.8Meg
V 2	12BA6	3.8Meg	0Ω	24Ω	36Ω	†1.5KΩ	†1.5KΩ	120Ω
V 3	12AT6	10Meg	0Ω	0Ω	12Ω	500KΩ	500KΩ	†470KΩ
V 4	50C5	150Ω	470KΩ	86Ω	36Ω	470KΩ	†1.5KΩ	†150Ω
V 5	35W4	INF	INF	86Ω	121Ω	139Ω	103Ω	40KΩ

▲ TAKEN WITH VACUUM TUBE VOLTMETER
† MEASURED FROM PIN 7 OF V5.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

HALLICRAFTERS
MODEL S-80

HALLICRAFTERS
MODEL S-80

TRADE NAME	Hallicrafters Model S-80
MANUFACTURER	The Hallicrafters Co., 4401 W. 5th St., Chicago 24, Ill.
TYPE SET	Battery Operated AM Superheterodyne Communications Receiver
TUBES (FOUR)	Types 1R5 Conv., 1U4 IF Amp., 1U5 Det.-AVC-AF Amp., 3V4 Audio Output.
POWER SUPPLY	1.5 Volt "A" Supply & 90 Volt "B" Supply in Pack Form
RATING	250 MA @ 1.5 Volts DC & 14 MA @ 90 Volts DC
TUNING RANGE—BROADCAST	540-1620KC SHORT WAVE 6-18MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set pointer 2 5/16 inches to the right of the left hand end of dial backplate. The RMA dummy consists of a 200 MMF capacitor in series with a 20 microhenry choke which is shunted by a 400MMF capacitor in series with a 400Ω carbon resistor.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to stator on rear section of tuning gang. Low side to chassis.	455KC (400 mod)	BC (CCW)	1000KC	Across voice coil.	A1, A2 A3, A4	Adjust for maximum output.
2.	RMA Dummy	High side thru dummy to green ant. lead. Low side to chassis.	14MC	SW (CW)	Set pointer 7" to right of left hand end of dial backplate.	"	A5, A6	"
3.	"	"	1300KC	BC	Set pointer 7 9/16" to right of left hand end of dial backplate.	"	A7, A8	"
4.	"	"	600KC	"	Set pointer 3 1/4" to right of left end of dial backplate	"	A9	Adjust for maximum output. Repeat steps 3 and 4 until no further improvement can be made.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RTMA BASE TYPE	INSTALLATION NOTES
		HALLICRAFTER PART No.	STANDARD REPLACEMENT		
V1	Converter	1R5	1R5	7AT	
V2	IF Amplifier	1U4	1U4	6AR	
V3	Det.-AVC-AF Amp	1U5	1U5	6BW	
V4	Audio Output	3V4	3V4	6BX	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	Hallicrafters PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1	4	150		PRS150/4		BR415		TVA-1402	Decoupling †
C2	10		47B20A100K5	SI10	D6-100	5W5Q1	GP1K-100	5GA-Q1	Fixed Trimmer
C3	.05	200	46A091	P288-05	DF-503	PTE4S5		2TM-S5	AVC Filter
C4	2.2		47A160-4		TCZ-2.2		NP0K-2R2		Osc. Coupling
C5	100		47B20A101K5	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	Osc. Grid Cap.
C6	4700	500	47K35B472K	1467-005	D6-472	1D5D5	GP2-333-472	1FM-25	Fixed Trimmer
C7	100		47B20A101K5	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	Fixed Trimmer
C8	.01	600	46AY103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Osc. Anode Bypass
C9	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	Conv. Plate Dec.
C10	1000		47B20A102K5	SI100	D6-102	1D5D1	GP2L-102	5HK-D1	IF Amp. Grid Filter
C11	220	500	47X20B221M	1468-00025	D6-221	5W5T25	GP2K-221	1FM-325	Diode RF Filter
C12	.005	600	46AZ502J	P688-005	D6-502	PTE6D5	GP2-333-502	6TM-D5	Audio Coupling
C13	220	500	47X20B221M	1468-00025	D6-221	5W5T25	GP2K-221	1FM-325	AF Amp. Plate Bypass
C14	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	AF Amp. Screen Bypass
C15	.005	600	46AZ502J	P688-005	D6-502	PTE6D5	GP2-333-502	6TM-D5	Audio Coupling
C16	.002	600	46AZ202J	P688-002	D6-202	PTE6D2	GP2-333-202	6TM-D2	Audio Output Plate

† Some models use a 12MFD in this application (Part No. 45B194).

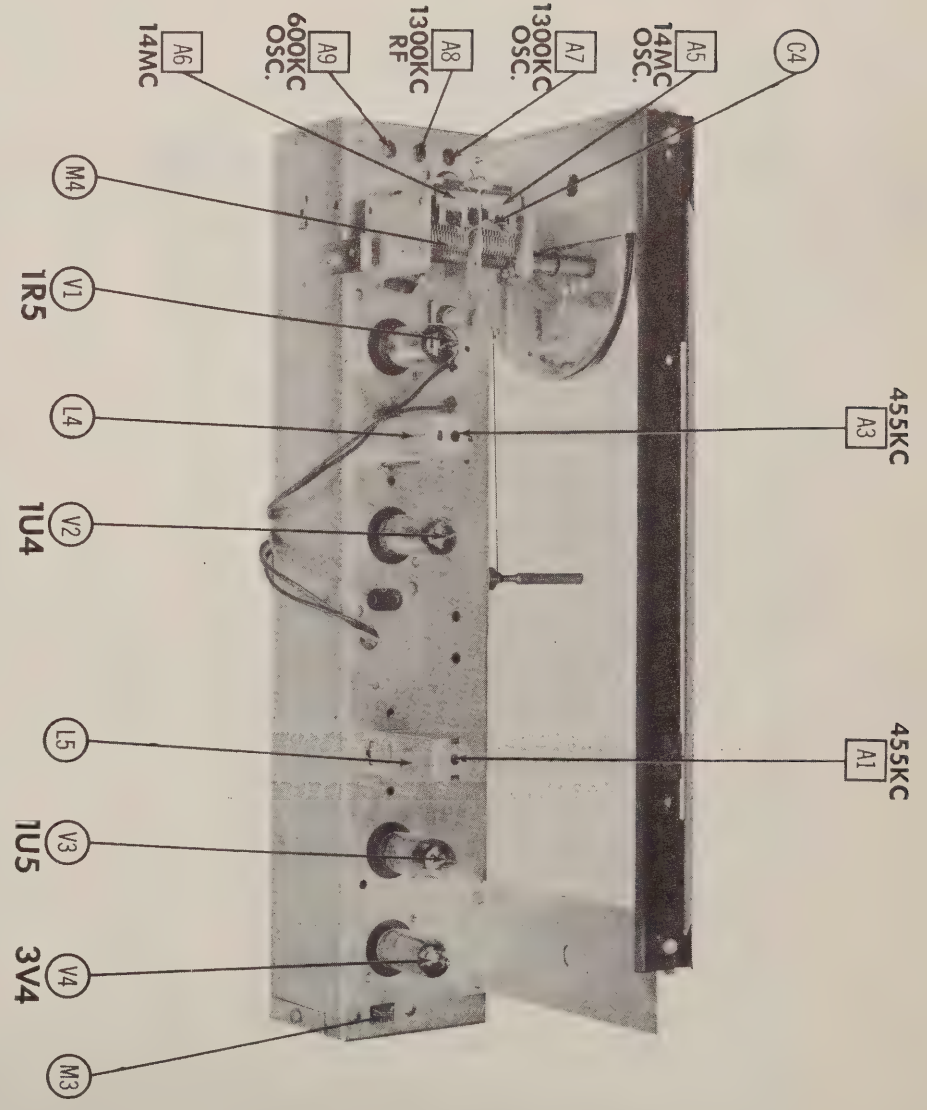
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	Hallicrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	1Meg	½	25B959	Q13-137	AG-63-Z	B-70-S	Volume Control
B	Shaft		Not Req.	Not Req.	RS-3	Not Req.	Attach to R1A per instructions.
C	Switch		Not Req.	76-2	SWB-2	Not Req.	Attach to R1A per instructions.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	Hallicrafters PART No.	IRC PART No.	
R2	47KΩ	½	23X20X473K		Mixer Grid
R3	2200Ω	½	23X20X222K	BTS-2200	Converter Plate Decoupling
R4	22KΩ	½	23X20X223K		Osc. Anode
R5	4.7Meg	½	23X20X475K		IF Amp. Grid
R6	2.2Meg	½	23X20X225K	BTS-2.2Meg	AVC Network
R7	4.7Meg	½	23X20X475K	BTS-4.7Meg	Tone Compensation
R8	1Meg	½	23X20X105K	BTS-1Meg	AF Amp. Plate
R9	5.6Meg	½	23X20X565M	BTS-5.6Meg	AF Amp. Screen
R10	2.2Meg	½	23X20X225K	BTS-2.2Meg	Audio Output Grid
R11	.75Ω	½	23A062		Series Filament
R12	330Ω	½	23X20X331K	BTS-330	Bias Network

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		Hallicrafters PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T1	4KΩ	3.5Ω	315Ω	.4Ω	Part of 85C085	A-3879	A-2932	RO-16	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	Hallicrafters PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	P.M.	3.5Ω	85C085	ST-105 Mod. P5-X	5A1	
	CONE DIA.	V. C. DIA.				
SP1B	4½"	9/16"				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	Hallicrafters PART No.	MERIT PART No.	
L1A	Broadcast Ant. Coil	32Ω	4Ω			
B	Shortwave Ant. Coil	.3Ω	.1Ω	51B1459		
L2	Broadcast Osc. Coil	2.2Ω	4.7Ω	51B1460		
L3	Shortwave Osc. Coil	.2Ω	1Ω	51B1461		Tap @ .2Ω
L4	Input IF	22.5Ω	22.8Ω	50C233	BC-352	
L5	Output IF	20.8Ω	32Ω	50C516		

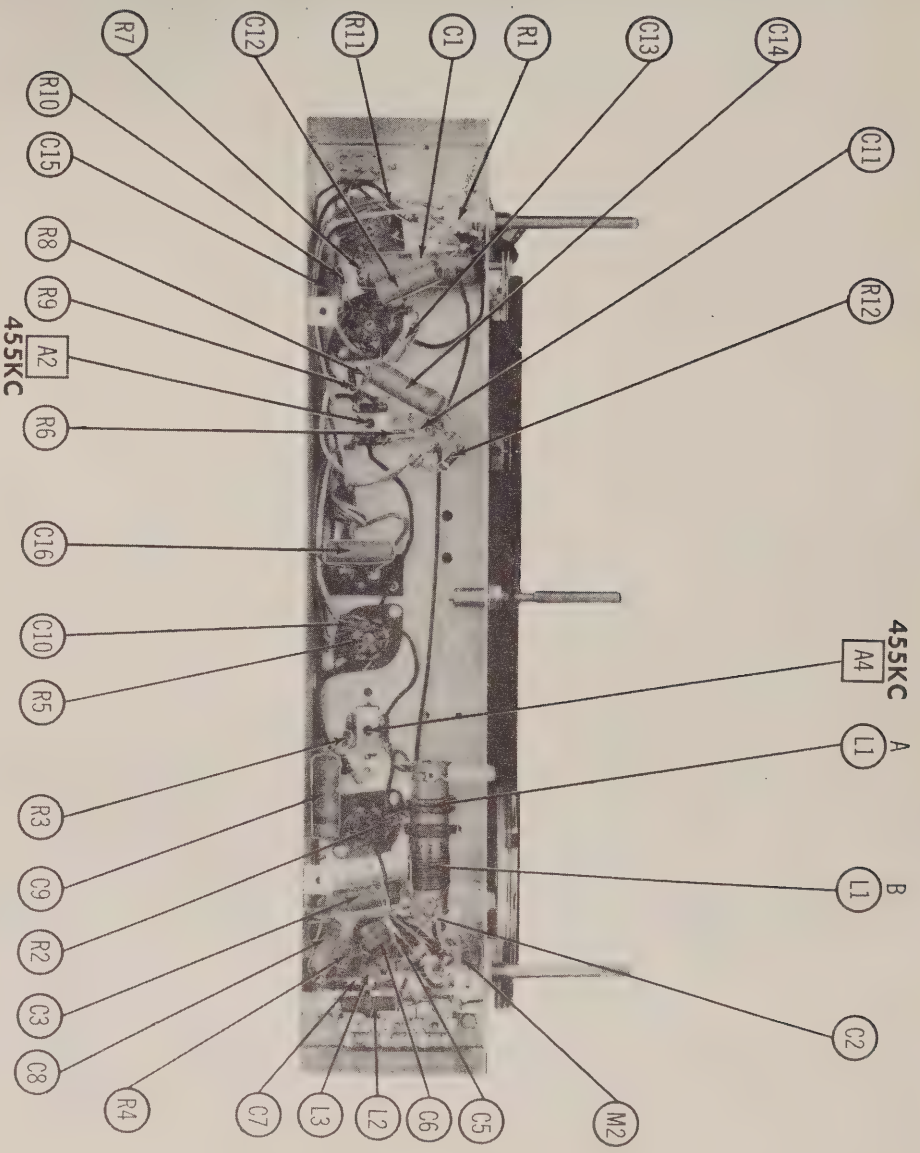
BATTERIES

ITEM No.	VOLTAGE	Hallicrafters PART No.	REPLACEMENT DATA						INSTALLATION NOTES
			EVEREADY			BURGESS			
			"A"	"B"	"A-B"	"A"	"B"	"A-B"	
M1	"A"-1.5V "B"-90V				759 or 758			17GD60	

MISCELLANEOUS

ITEM No.	PART NAME	Hallicrafters PART No.	NOTES
M2	Switch	60B461	Band
M3	Switch	60A244	Battery (new-used)
M4	2 Gang Var. Cap.	48C274	(28-458MMF, 25-456MMF)
A7, A8, A9	Trimmer Assembly	44C406	BC Osc. Adj. BC Ant. Adj. BC Padder Adj.
	Cabinet	66A754	
	Dial Glass	22C342	

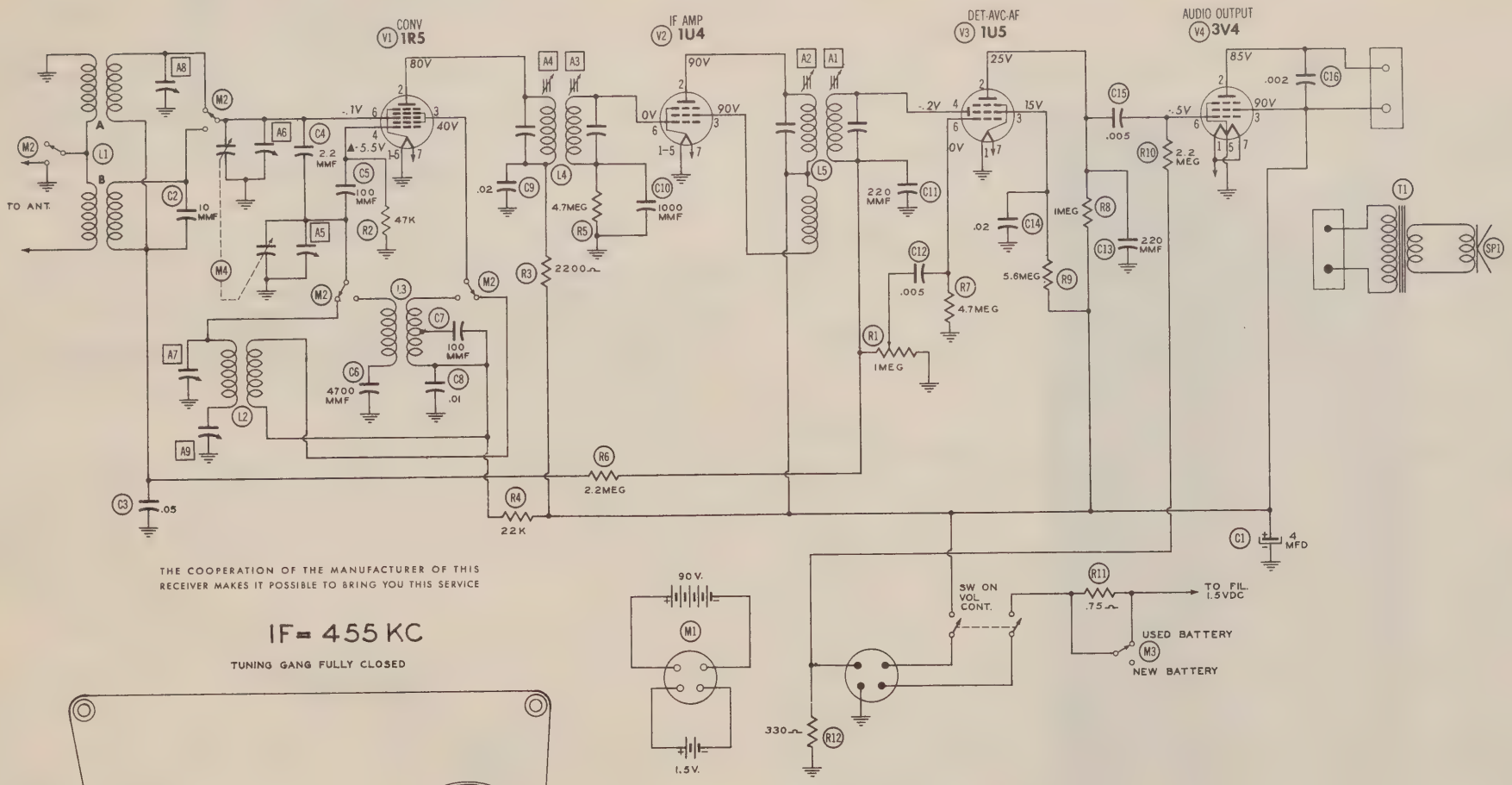
CHASSIS—BOTTOM VIEW



SET 162 FOLDER 6

HALLICRAFTERS MODEL S-80

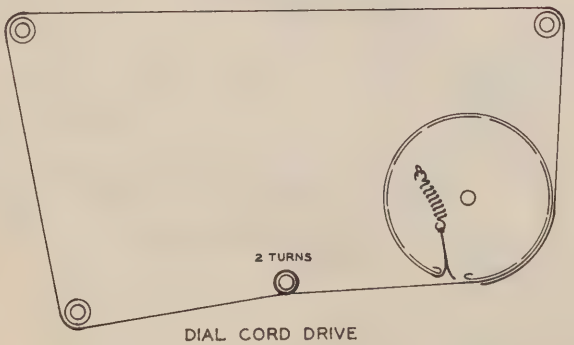
HALLICRAFTERS MODEL S-80



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

IF = 455 KC

TUNING GANG FULLY CLOSED



DIAL CORD DRIVE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	1R5	0Ω	†2.2Meg	†22KΩ	47KΩ	0Ω	3.2Meg	*
V 2	1U4	0Ω	†20Ω	†.6Ω	4.7Meg	0Ω	4.7Meg	*
V 3	1U5	0Ω	†1Meg	†5.6Meg	1Meg	330Ω	4.7Meg	*
V 4	3V4	*	† 315Ω	† 0Ω	INF	0Ω	2.2Meg	*

ALL MEASUREMENTS TAKEN IN BC POSITION ONLY
† MEASURED FROM PIN 3 OF V4
▲ TAKEN WITH VACUUM VOLT METER
* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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1 - DC Voltage measurements are at 20,000 ohms per volt, AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
5 - Volume control at maximum, no signal applied for voltage measurements

PHOTOFACT* Folder

*TRADE MARK

JACKSON
CH. 114H, 116H, 117H, 120H

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MODEL 117H

JACKSON
CH. 114H, 116H, 117H, 120H

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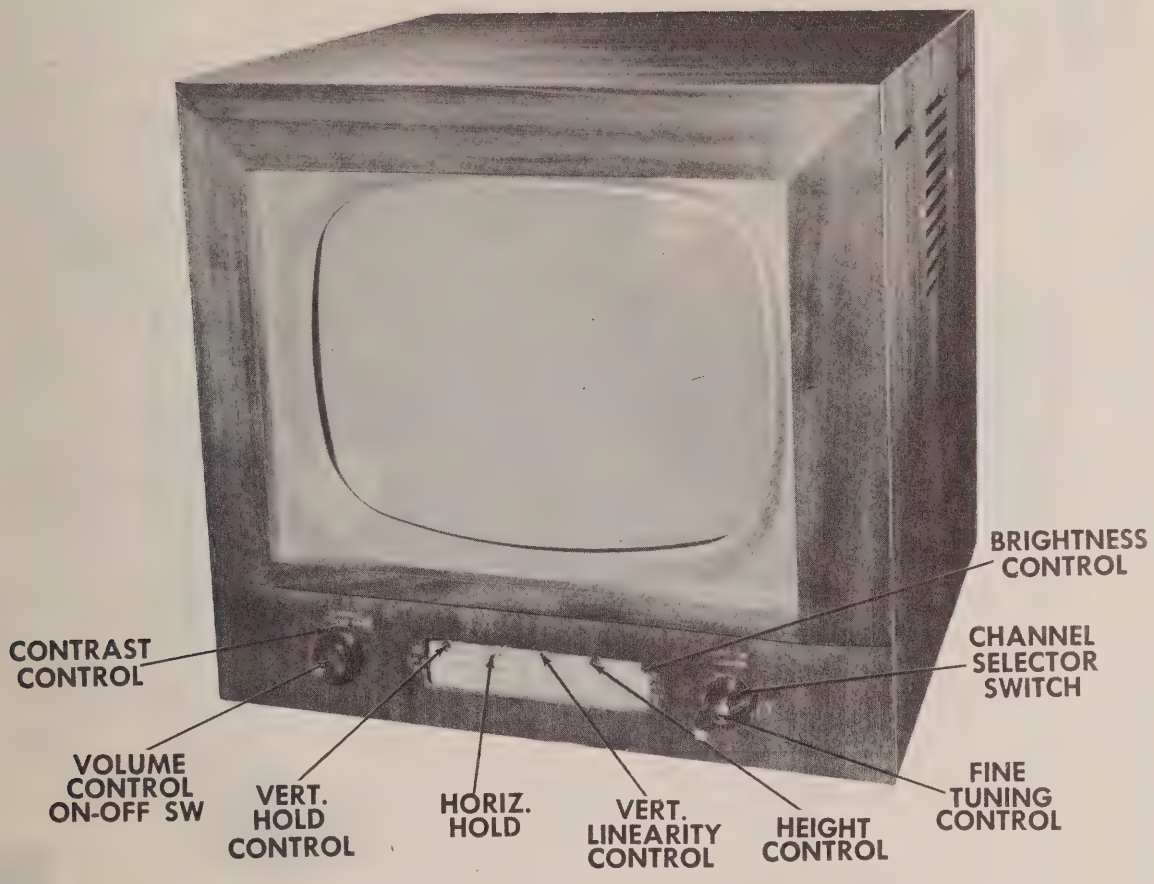
JACKSON
CH. 114H, 116H, 117H, 120H



JACKSON
CH. 114H, 116H, 117H, 120H

Jackson Chassis 117H

TRADE NAME	Jackson Chassis 114H, 116H, 117H, 120H
MANUFACTURER	Jackson Ind., Inc., 58E. Cullerton St., Chicago, Ill.
TYPE SET	Television Receiver
TUBES	Twenty
POWER SUPPLY	110-120 Volts AC-60 Cycle — RATING 1.7 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	Channels 2 thru 13

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DATE 3-52 SET 162 FOLDER 7

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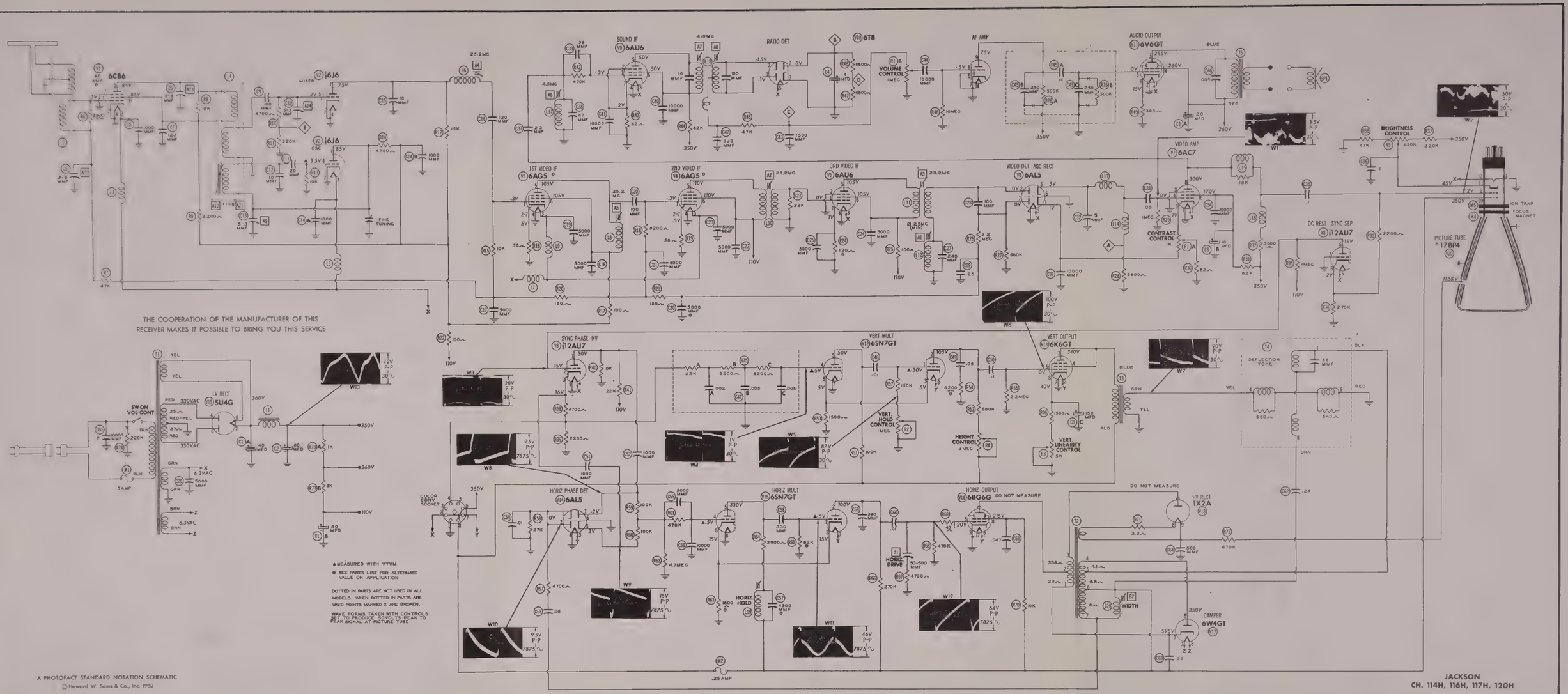
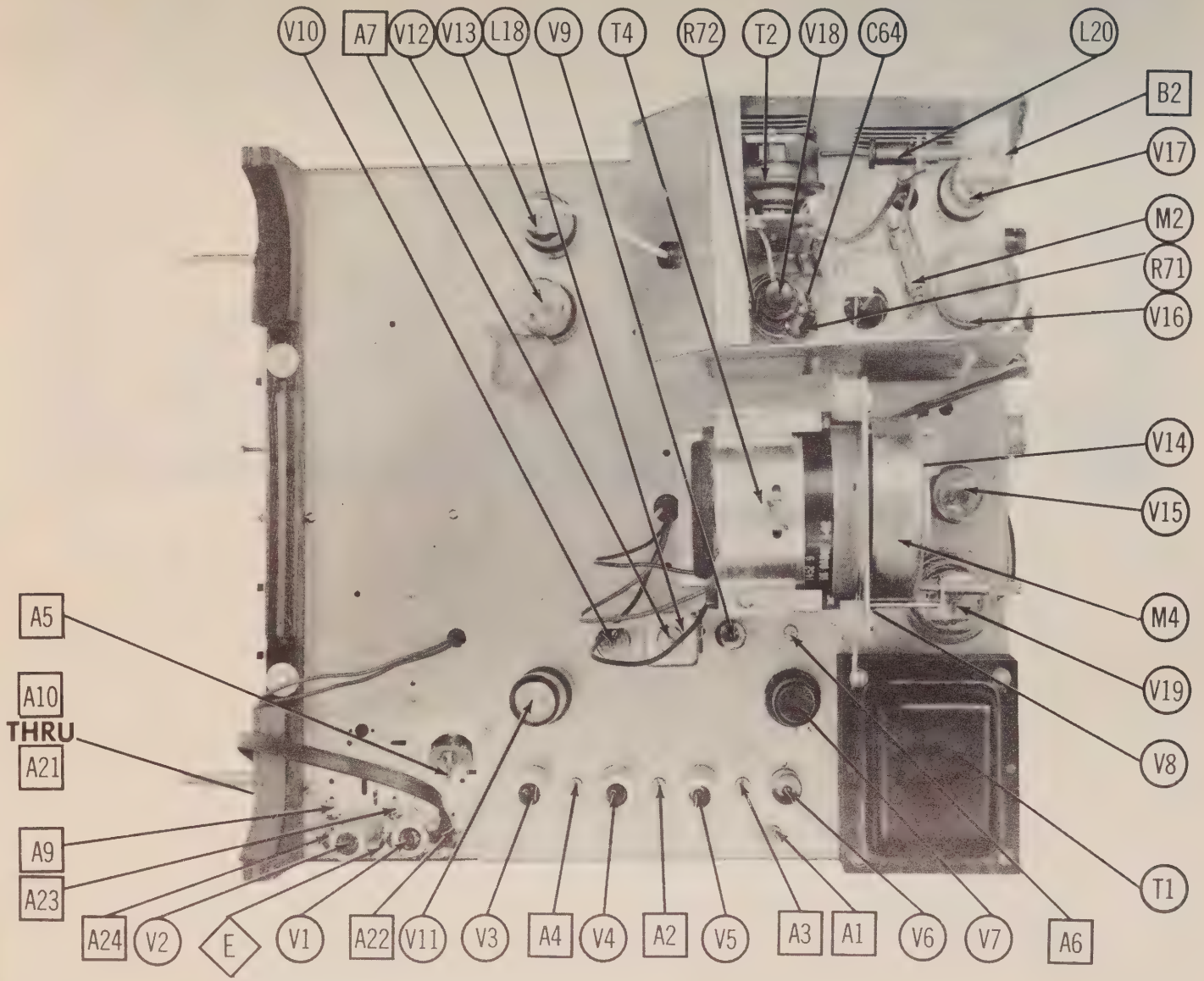
3924 MEADE ST
DENVER, COLORADO



JACKSON
CH. 114H, 116H, 117H, 120H



CHASSIS TOP VIEW

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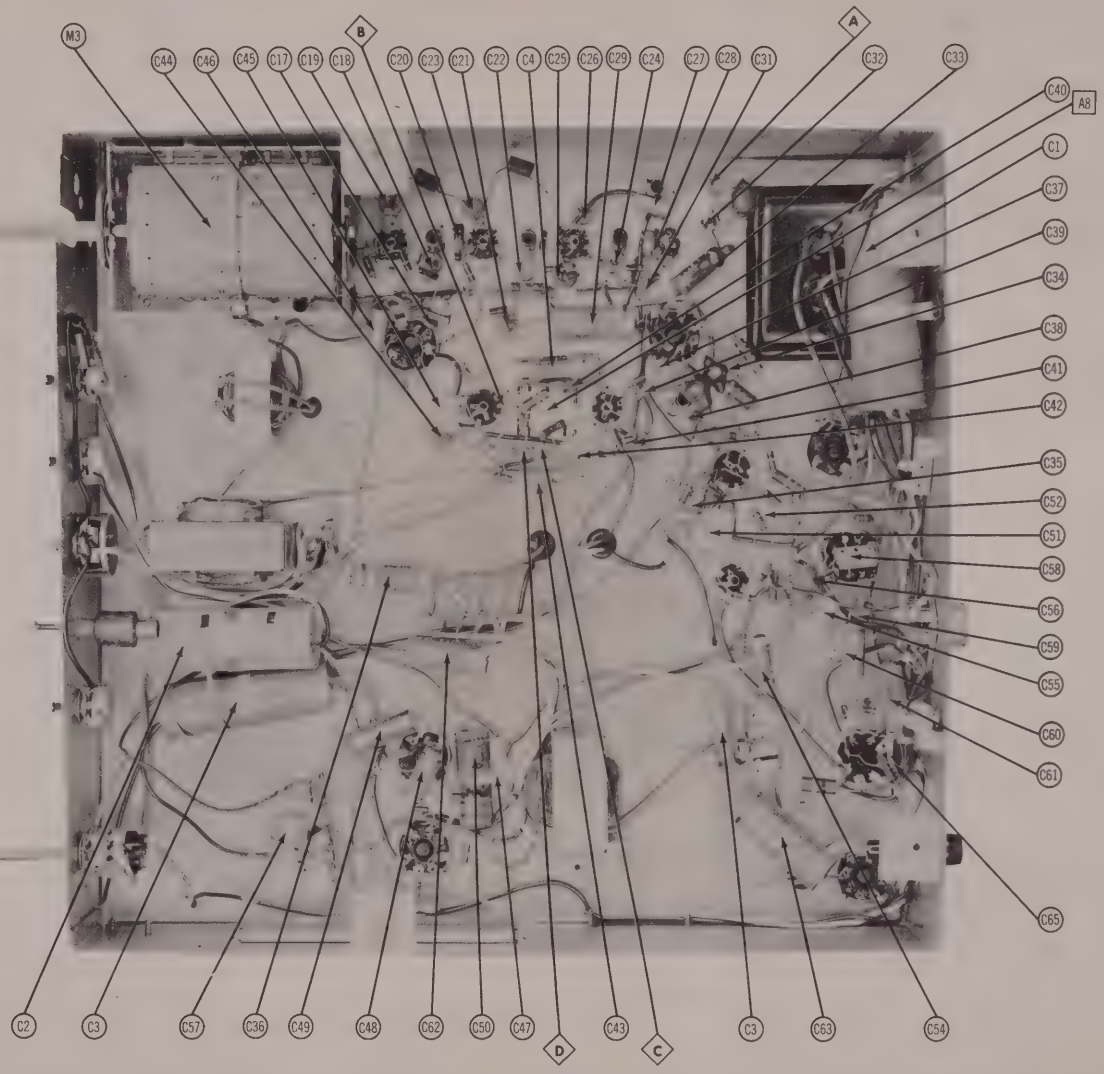
H. F. BLANKENSHIP
3828 MOHR
HEW



CHASSIS BOTTOM VIEW- CAPACITOR AND ALIGNMENT IDENTIFICATION

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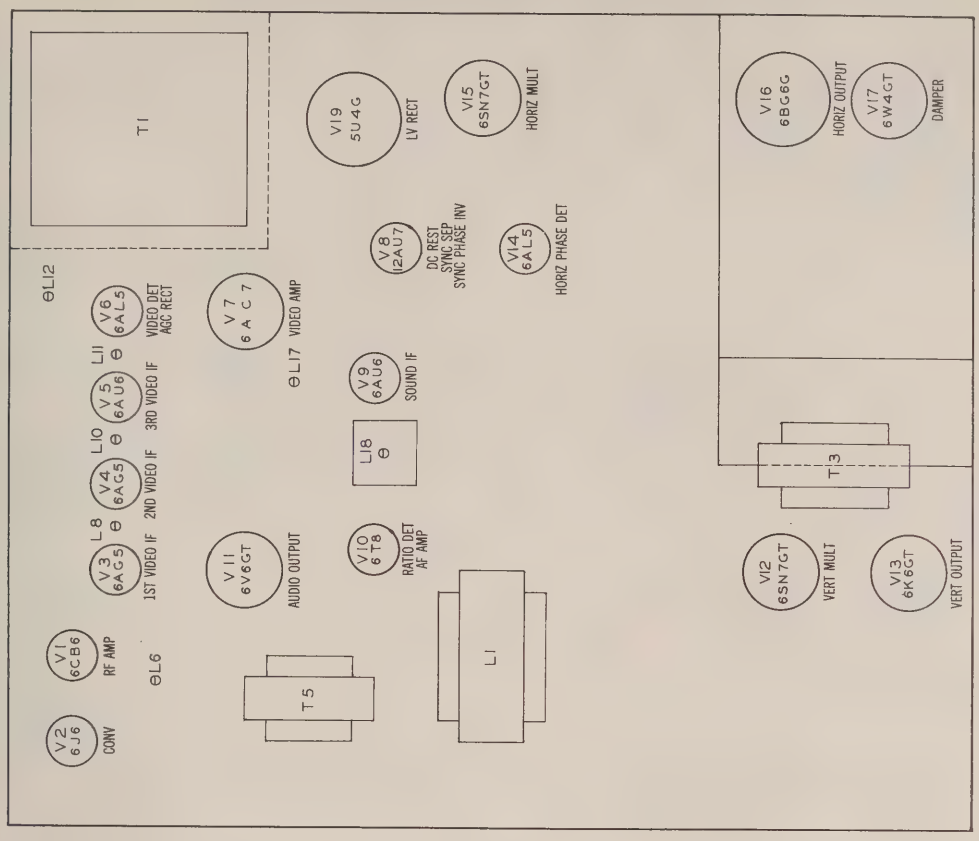
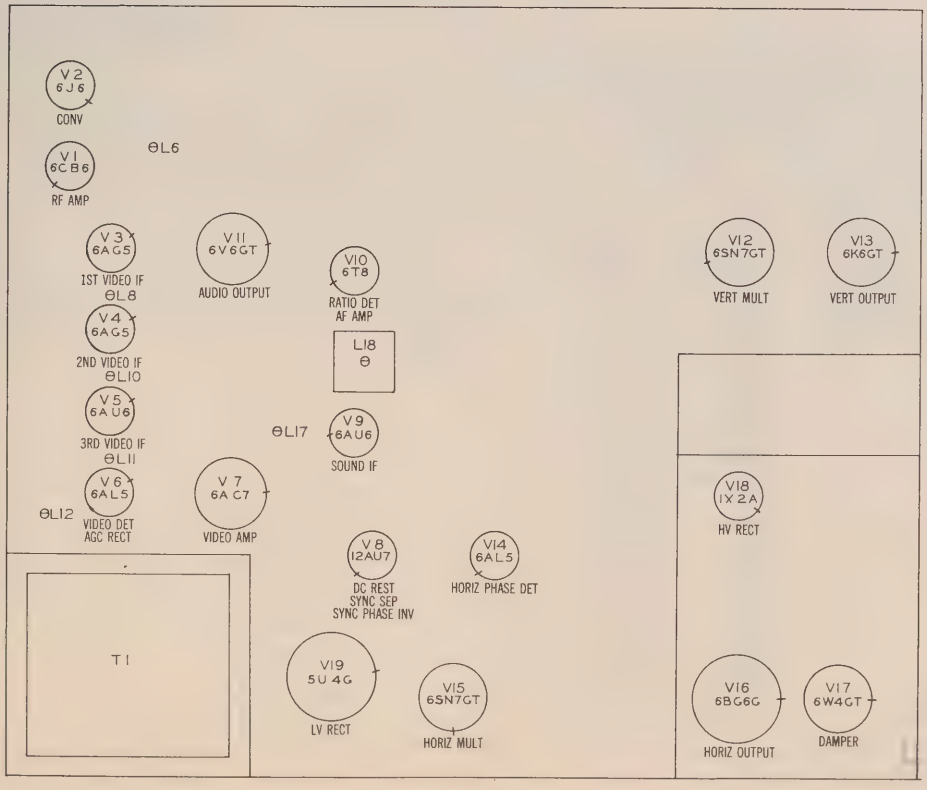
DENVER, COLORADO



BOTTOM VIEW



TOP VIEW

TUBE PLACEMENT CHART

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DENVER, COLORADO

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator to disable the high voltage.

VIDEO IF ALIGNMENT

Remove the converter tube, (V2) from its socket and replace it with a 6J6 which has Pin 1 removed, this will disable the local oscillator and prevent the possibility of erroneous indications.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	21.25MC (unmod)	Any	DC probe to point (A). Common to chassis.	A1	Adjust for MINIMUM deflection.
2.	"	"	23.2MC	"	"	A2, A3	Adjust for maximum deflection. Attenuate signal gen. to maintain 1 volt reading.
3.	"	"	25.2MC	"	"	A4, A5	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
Connect the negative lead of a 1.5 volt battery to the ungrounded lead of C29, connect the positive lead to chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	Direct	High side to an ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	24.5MC (10MC Swp)	21.25MC 22MC 24.3MC 25.75MC	Any	Vert Amp. to point (A). Low side to chassis.		Check for response curve similar to fig.1. If necessary retouch A2 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5.	.001MFD	High side to pin 4, (grid) of 6AC7, (V7). Low side to chassis.	4.5MC (unmod)	Any	DC probe to point (B). Common to chassis.	A6, A7	Adjust for maximum deflection.
6.	"	"	"	"	DC probe to point (C). Common to point (D).	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60~ modulation and 450KC sweep. Use 120~ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	.001MFD	High side to pin 4, (grid) of 6AC7, (V7). Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. Amp. to point (B). Low side to chassis.	A6, A7	Disconnect stabilizor capacitor C4. Adjust for maximum amplitude and symmetry as per fig. 2.
6.	"	"	"	"	"	Vert. Amp. to point (C). Low side to chassis.	A8	Reconnect capacitor C4. Adjust A8 so 4.5MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A7 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.
Complete oscillator alignment may not be necessary.
If the oscillator seems to be off frequency approximately the same amount for a majority of the channels, it may be possible to correct them in one step using A9. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A9 will not bring all channels well within the range of the fine tuning control, it will be necessary to adjust the channel strip adjustment for each channel that is off frequency. The channel strip adjustments are reached through a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel.
Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the mid-position of its range.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Two 210Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC swp.)	211.25MC 215.75MC	13	Vert. amp. to Point (A). Low side to chassis.	A10	Adjust to place sound marker in notch as shown in Fig. 4. The video marker should be at 50%.
			207MC (10MC swp.)	205.25MC 209.75MC	12		A11	
			201MC (10MC swp.)	199.25MC 203.75MC	11		A12	
			195MC (10MC swp.)	193.25MC 197.75MC	10		A13	
			189MC (10MC swp.)	187.25MC 191.75MC	9		A14	
			183MC (10MC swp.)	181.25MC 185.75MC	8		A15	
			177MC (10MC Swp.)	175.25MC 179.75MC	7		A16	
			85MC (10MC swp.)	83.25MC 87.75MC	6		A17	
			79MC (10MC swp.)	77.25MC 81.75MC	5		A18	
			69MC (10MC swp.)	67.25MC 71.75MC	4		A19	
			63MC (10MC swp.)	61.25MC 65.75MC	3		A20	
			57MC (10MC swp.)	55.25MC 59.75MC	2		A21	

ALIGNMENT INSTRUCTIONS (CONT.)

RF & MIXER ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MC swp.)	205.25MC 209.75MC	12	Vert. amp. thru 10KΩ to Point E. Low side to chassis.	A22, A23 A24	Adjust for response curve similar to Fig. 5. with markers above 90%.
9.	"	"	213MC (10MC swp.)	211.25MC 215.75MC	13	"		Check all channels for response curve similar to Fig. 5. If markers fall below 70% on any channel make slight adjustment of A22, A23 and A24 with channel switch set for that channel. Recheck all channels to see that they have not been seriously affected.
			201MC (10MC swp.)	199.25MC 203.75MC	11			
			195MC (10MC swp.)	193.25MC 197.75MC	10			
			189MC (10MC swp.)	187.25MC 191.75MC	9			
			183MC (10MC swp.)	181.25MC 185.75MC	8			
			177MC (10MC swp.)	175.25MC 179.75MC	7			
			85MC (10MC swp.)	83.25MC 87.75MC	6			
			79MC (10MC swp.)	77.25MC 81.75MC	5			
			69MC (10MC swp.)	67.26MC 71.75MC	4			
			63MC (10MC swp.)	61.25MC 65.75MC	3			
			57MC (10MC swp.)	55.25MC 59.75MC	2			

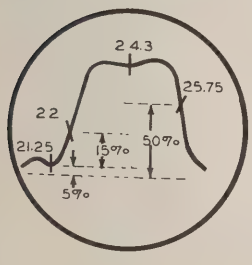

FIG.1

FIG. 2

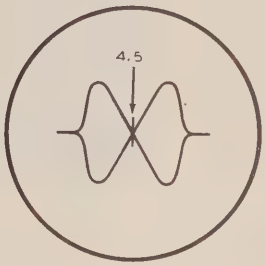

FIG. 3

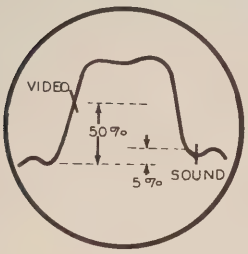

FIG.4

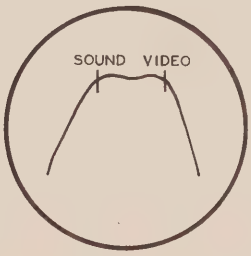

FIG.5

JACKSON
CH. 114H, 116H, 117H, 120H

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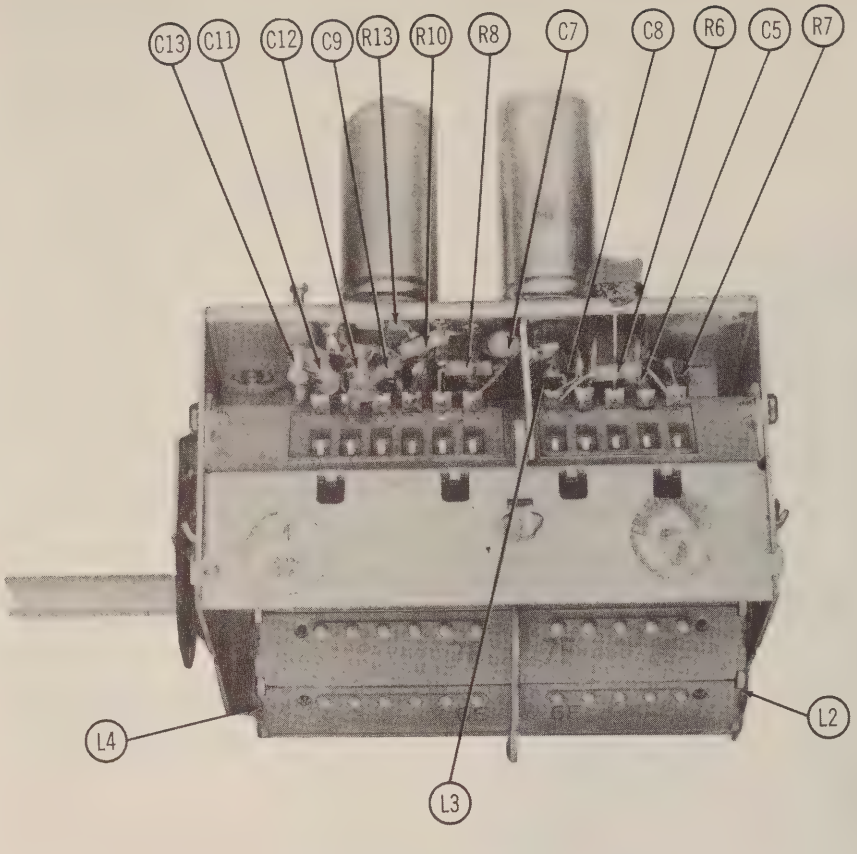
3024 WADE ST.
DENVER, COLORADO

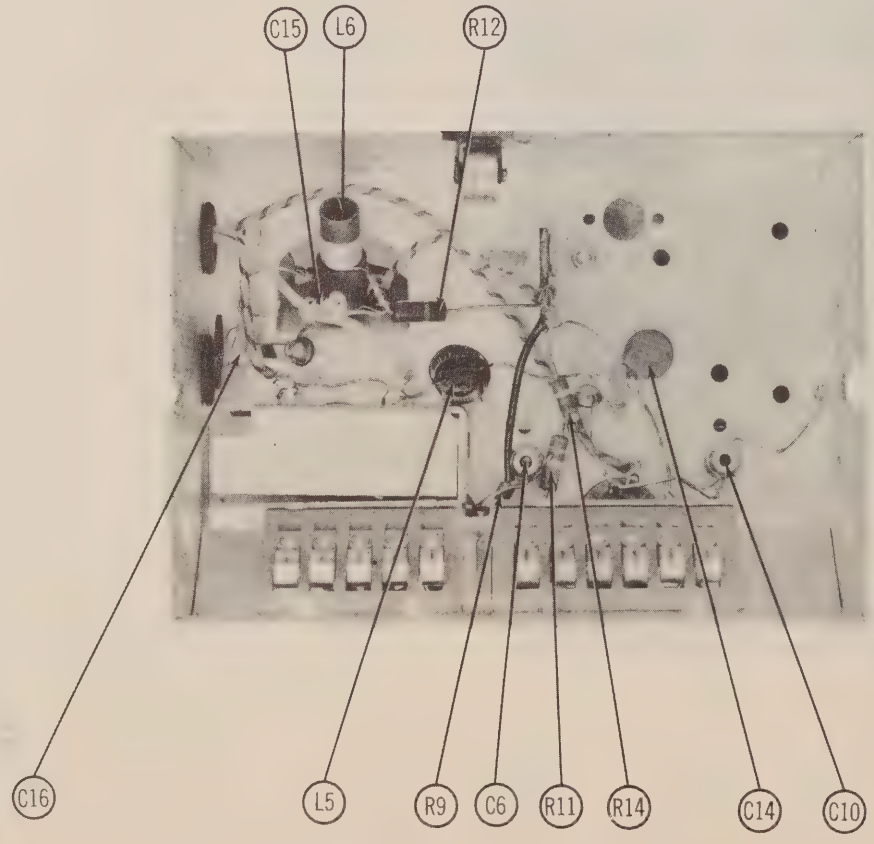
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	2.9Meg	0Ω	.1Ω	0Ω	†6.3KΩ	†6.3KΩ	0Ω		
V 2	6J6	†8.8KΩ	†19KΩ	.1Ω	0Ω	220KΩ	10KΩ	0Ω		
V 3	6AG5	2.9Meg	56Ω	.1Ω	0Ω	†4.2KΩ	†4.2KΩ	56Ω		
V 4	6AG5	2.9Meg	56Ω	.1Ω	0Ω	†4KΩ	†4KΩ	56Ω		
V 5	6AU6	.2Ω	0Ω	.1Ω	0Ω	†4.1KΩ	†4.1KΩ	120Ω		
V 6	6AL5	800Ω	.3Ω	.1Ω	0Ω	6.8KΩ	0Ω	680KΩ		
V 7	6AC7	0Ω	.1Ω	0Ω	1Meg	300Ω	†80KΩ	0Ω	†5.6KΩ	
V 8	12AU7	7KΩ	†1Meg	6.9KΩ	.1Ω	.1Ω	†1Meg	0Ω	270KΩ	0Ω
V 9	6AU6	470KΩ	82Ω	.1Ω	0Ω	†82KΩ	†82KΩ	82Ω		
V 10	6T8	1Meg	13KΩ	1Meg	0Ω	.1Ω	0Ω	0Ω	10Meg	†500KΩ
V 11	6V6GT	Inf	0Ω	†1.3KΩ	†1KΩ	500KΩ	Inf	.1Ω	390Ω	
V 12	6SN7GT	600KΩ	†1.2Meg	1.5KΩ	42KΩ	†100KΩ	1.5KΩ	0Ω	.1Ω	
V 13	6K6GT	†80KΩ	.1Ω	†855Ω	†855Ω	2.2Meg	800Ω	0Ω	2.3KΩ	
V 14	6AL5	27KΩ	27KΩ	.1Ω	0Ω	4.8Meg	0Ω	4.8Meg		
V 15	6SN7GT	82KΩ	†270KΩ	1.8KΩ	5.1Meg	†4KΩ	1.8KΩ	.1Ω	0Ω	
V 16	6BG6G	Inf	.1Ω	0Ω	470KΩ	470KΩ	Inf	0Ω	†10KΩ	TOP CAP #29Ω
V 17	6W4GT	Inf	Inf	Inf	Inf	†70Ω	Inf	¶.1Ω	¶0Ω	
V 18	1X2A	PINS 1 THROUGH 9 HAVE INF RESISTANCE								TOP CAP #385Ω
V 19	5U4G	Inf	28KΩ	Inf	25Ω	Inf	27Ω	Inf	28KΩ	
V 20	17BP4	0Ω	270KΩ	PIN 10 †55Ω	PIN 11 60KΩ	PIN 12 .1Ω				

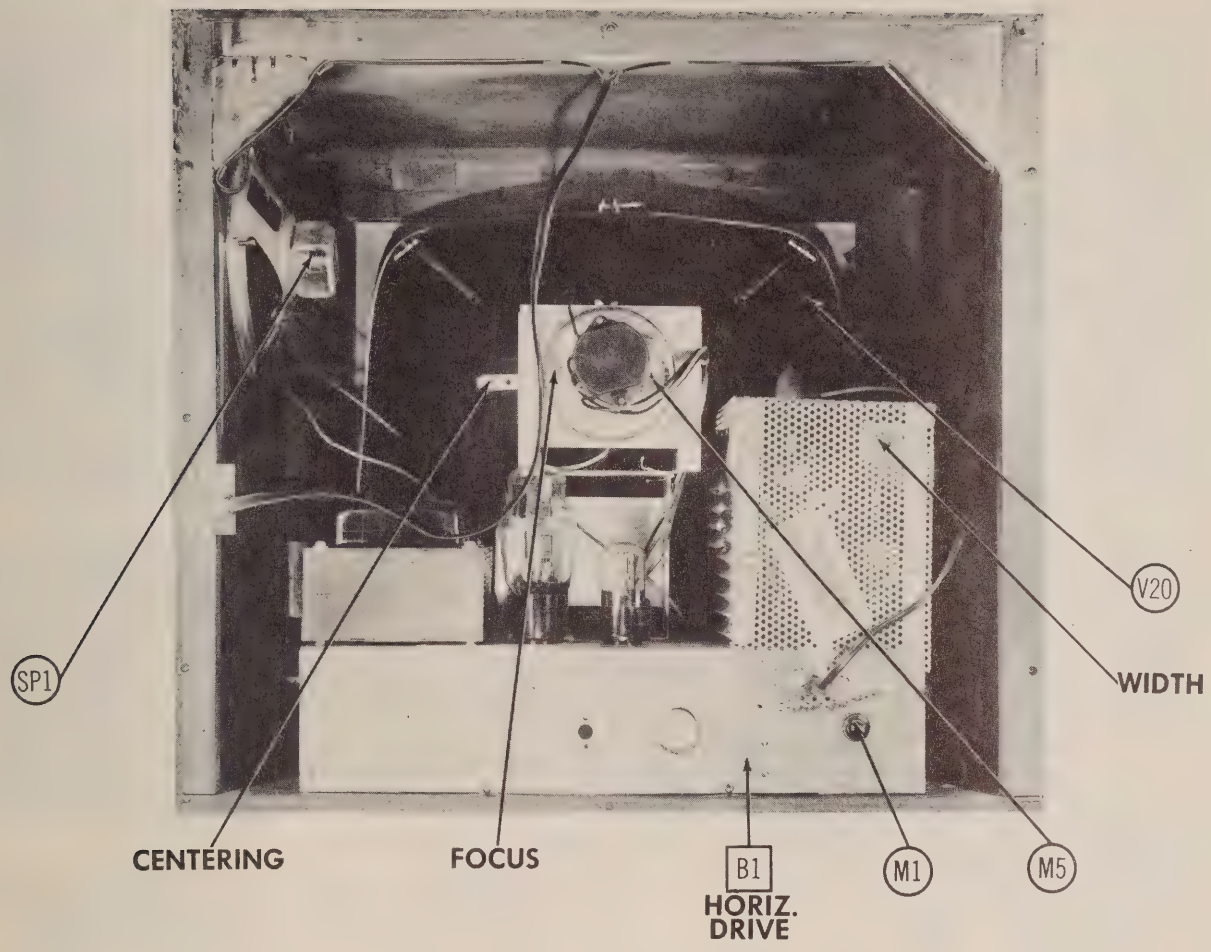
ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM PIN 8 OF V19
# MEASURED FROM PIN 3 OF V17
¶ MEASURED FROM PIN 8 OF V17



RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Adjust the horizontal hold slug to the center of the range over which the picture synchronizes horizontally.

Turn the width slug, (B2), all the way in, (clockwise).

Adjust the horizontal drive trimmer, (B1), for best compromise between brightness and horizontal linearity. If bright vertical lines appear in the picture, turn B1 clockwise just enough to eliminate them.

Turn the width slug, (B2), counter clockwise until the picture is slightly wider than necessary to fill the mask horizontally.

DISASSEMBLY INSTRUCTIONS

1. Remove 6 wood screws holding rear cover. Remove cover.
2. Remove 4 push-on type control knobs.
3. Disconnect built-in antenna and speaker.
4. Remove 2 speaker mounting nuts. Remove speaker.
5. Remove 4 chassis bolts. Remove chassis.

Note: For picture tube removal it is necessary to remove chassis as outlined above.

PROPERTY OF:
L. F. BLANKENSHIP
3834 MEADE ST.
DENVER, COLORADO

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1A	RF Amp.	6CB6	6CB6	7CM	
B	RF Amp.	6AG5	6AG5	7BD	
C	RF Amp.	6BC5	6BC5	7BD	
V2	Converter	6J6	6J6	7BF	
V3A	1st. Video IF Amp.	6AG5	6AG5	7BD	
B	1st. Video IF Amp.	6BC5	6BC5	7BD	
C	1st. Video IF Amp.	6CB6	6CB6	7CM	
V4A	2nd. Video IF Amp.	6AG5	6AG5	7BD	
B	2nd. Video IF Amp.	6BC5	6BC5	7BD	
C	2nd. Video IF Amp.	6CB6	6CB6	7CM	
V5	3rd. Video IF Amp.	6AU6	6AU6	7BK	
V6	Video Det.-AGC Rect.	6AL5	6AL5	8BT	
V7	Video Amp.	6AC7	6AC7	8N	
V8	Dc Rest.Sync.Sep. Sync. Phase Inv.	12AU7	12AU7	9A	
V9	Sound IF Amp.	6AU6	6AU6	7BK	
V10	Ratio Det.-AF Amp.	6T8	6T8	9E	
V11	Audio Output	6V6	6V6	7AC	
V12	Vert. Multi.	6SN7GT	6SN7GT	9BD	
V13	Vert. Output	6K6GT	6K6GT	7S	
V14	Horiz. Phase Inv.	6AL5	6AL5	8BT	
V15	Horiz. Mult.	6SN7GT	6SN7GT	9BD	
V16	Horiz. Output	6BG6G	6BG6G	5BT	
V17	Damper	6W4GT	6W4GT	4C G	
V18	HV Rect.	1X2A	1X2A	8Y	
V19	LV Rect.	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: SYLVANIA PART No.	REPLACEMENT DATA: THOMAS PART No.	RMA BASE TYPE	NOTES
V20A	17BP4	17BP4	17BP4	12D	① Use single magnet Ion trap.
B	14BP4	14BP4	14CP4 ①	12D	
C	14CP4	14CP4	14CP4	12D	
D	16KP4	16KP4	16KP4	12D	
E	16TP4	16TP4	16KP4	12D	
F	17AP4	17BP4A	17BP4	12D	
G	20CP4	20CP4	20CP4	12D	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CENTRALAB PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: ERIE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	450	CRD4445	PRS450/40-40		BR8045A		TVA-2740	Filter (Red)
B	40	450							Decoupling (Red)
C	40	450	CRS8045	PRS450/40-40		BR6045		TVA-1716	Filter (Red)
C3A	20	450	CRT21C45	PRS450/20-20		BRD2345		TVA-2730	Audio Output Dec. (Red)
B	10	450		PRS50/100		BRH5015		TVA-1311	Video Amp.Screen (Blue) Vert.Output Cath. (Green)
C	150	50						TVA-1303	Stabilizing Cap.
C4	4	50	CRS0405	PRS150/4		BR50			Variable Trimmer
C5	3-9				829-10				Variable Trimmer
C6	5-3		CVC0308T		829-3				RF Amp. Decoupling
C7	120		CCU05121K	SI120	D6-121		GP2K-121	5GA-T12	RF Amp. Fil.
C8	1000		CCZ05102Y	SI1000	D6-102		GP2K-102	5HK-D1	RF Coupling
C9	100		CCU05101K	SI100	D6-101		GP1K-101	5GA-T1	Variable Trimmer
C10	.5-3		CVC0308T		829-3				Osc. Grid Cap.
C11	20		CCC05200K	SI20NP0	TCZ-20		NP0K-200		Fixed Trimmer
C13	10		CCU05100K	SI100N750	TCN-10		N750K-100	5TCU-Q1	Variable Trimmer
C13	.5-3		CVC0308T		829-3				Conv. Fil.
C14A	1000			BPD-2x001	DD-2-102		812-001	5HK-2D1	RF Bypass
B	1000								Fixed Trimmer
C15	10		CCC05100K	SI10NP0	TCZ-10		NP0K-100	5TCC-Q1	AGC Coupling
C16	120		CCU05121K	SI120	D6-121		GP2K-121	5GA-T12	IF Coupling
C17	5000		CDZ05503Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AGC Filter
C18	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st. Video IF Dec.
C19	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st. Video IF Fil.
C20	100		CCU05101K	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C21	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AGC Filter
C22	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd. Video IF Dec.
C23	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd. Video IF Fil.
C24	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	3rd. Video IF Dec.
C25	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	3rd.Video IF Cathode
C26	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Fil. Bypass
C27	240	500	CMB0524UK	1469-00025		5R5T25			Fixed Trimmer
C28	100		CCU05101K	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C29	.35	200	CPZ02254M	P488-25		GT2P25		2TM-P25	AGC Filter
C30	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AGC Cathode
C31	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Video Det. Filter
C32	5		CCU05050M	SI5NP0	TCZ-4.7		NP0K-050		Video Coupling
C33	.05	200	CPZ02503M	P388-05	DF-503	PTE485		2TM-S5	Video Coupling
C34	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Video Amp. Screen
C35	.1	400	CPZ04104M	P488-1	DF-104	PTE4P1		4TM-P1	Video Coupling
C36	.1	400	CPZ04101M	P488-1	DF-104	PTE4P1		4TM-P1	Picture Tube Cathod:
C37	2.2		CCG05022D		TCZ-2.2		NP0K-2R2		Sound IF Coupling
C38	47		CCU05470K	SI47N750	TCN-47		N750K-470	5TCU-Q4?	Fixed Trimmer
C39	39		CCG05390M	SI39	D6-390	5W5Q4	GP1K-390		Sound IF Grid
C40	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Sound IF Decoupling
C41	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Sound IF Cathode
C42	330	500	CMA05331M	1469-00035					Diode Load Cap.
C43	1500	500	CMA05152M	1468-0015	D6-152	1W5D15	GP2L-152	1FM-215	De-emphasis
C44	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Audio Coupling
C45A	.01								Audio Coupling
B	250		† A-1376-5F		†PC-80			†101C2	AF Amp. Plate
C									Audio Output Grid

CAPACITORS (CONT.)

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CENTRALAB PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: ERIE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C46	.005	600	CWZ06503M	P688-005	D6-502	PTE6D5	GP2-333-50	5TM-D5	Audio Output Plate
C47A	.002			P688-002		PTE6D2	GP2-333-20?		Vert.Integrator Net
B	.005		♦ A-1375-6F	P688-005	♦ PC-100	PTE6D5	GP2-333-502	♦101C1	Vert.Integrator Net
C	.005			P688-005		PTE6D5	GP2-333-502		Vert. Integrator Net
C48	.01	600	CPZ06103M	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Vert. MV Feedback
C49	.05	600	CPZ06503M	P688-05	DF-503	PTE6S5		6TM-S5	Vert. Discharge
C50	.1	600	CPZ06104M	P688-1	DF-104	PTE6P1		6TM-P1	Vert. Sweep Coupling
C51	1000	500	CMA05102K	1468-001	D6-102	1W5D1	GP2L-102	1FM-21	Horiz.Sync.Coupling
C52	1000	500	CMA05102K	1468-001	D6-102	1W5D1	GP2L-102	1FM-21	Horiz.Sync. Coupling
C53	.05	600	CPZ06503M	P688-05	DF-503	PTE6S5		6TM-S5	Horiz. Feedback
C54	.01	600	CPZ06103M	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Vert. Output
C55	5000		CDZ05502Y	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AFC Coupling
C56	10000		CDZ05103Y	BPD-01	DD-103	1D3S1	821-01	5HK-S1	AFC Filter
C57	4300	500		1464-004		1DR5D4			Fixed Trimmer ¶
C58	330	500	CMA05331K	1469-00035					Horiz.MV Feedback
C59	390		CMA05391K		TCN-390		N750-333-390		Horiz. Discharge
C60	.01	600	CPZ06103M	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Horiz.Sweep Coupling
C61	.047	600	CPZ06503M	P688-047	DF-503	PTE6S5		6TM-S47	Horiz. Output Screen
C62	.25	200	CPZ02254M	P488-25		GT2P25		2TM-P25	Horiz.Sweep Coupling
C63	.25	600	CPZ06254M	P688-25		GP6P25		6TM-P25	Damper Filter
C64	500	20000	CPZ20K50I	HV20C	TV3-502				HV Filter
C65	10000			BPD-01	DD-103	1D3S1	821-01	5HK-S1	Line Filter ?

† Some Models use 05MFD in this application (Part No. CPZ06503M)
♦ Not used in all Models
♦ Items C47A, C47B, C47C, R75A, R75B, R75C are combined in one unit
¶ Some Models use 3900MMF in this application (Part No.CMB05392K)
† Items C45A, C45B, C45C, R76A, R76B are combined in one unit.
When replacing seperately C45B and C45C should total 250MMF

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	REPLACEMENT DATA: CENTRALAB PART No.	INSTALLATION NOTES
R1A	1000Ω	½	RVM100B	Concentrikit *		SBB-636-S	Contrast Control - Panel
B	1Meg			B11-108 *			Volume Control - Rear
C	Shaft end		Not Req.	B13-137 *		Not Req.	Attach per instructions in "Concentrikit"
D	Switch		Not Req.	E-202 *		Not Req.	Attach per instructions in "Concentrikit"
R2A	1Meg	½	RVC10N	76-1 *		AN-89	Vertical Hold Control
B	Shaft		Not Req.	Q11-137	AG-81-S	AK-1	Attach to R2A per instructions
R3A	5KΩ	½	RVC103N	Q11-114	AM-19-S	AN-10	Vertical Linearity Control
B	Shaft		Not Req.	Not Req.	FK3-1/4	AK-1	Attach to R3A per instructions
R4A	1Meg	½	RVC102N	Q11-140	AG-85-S	AN-84	Height Control
B	Shaft		Not Req.	Not Req.	FK3-1/4	AK-1	Attach to R4A per instructions
R5A	250KΩ	½	RVC100N	Q11-130	AG-55-S	AN-50	Brightness Control
B	Shaft		Not Req.	Not Req.	FK3-1/4	AK-1	Attach to R5A per instructions

* Additional Parts to be used with "Concentrikit"

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: IRC PART No	IDENTIFICATION CODES ALL RESISTORS ± 20% UNLESS OTHERWISE NOTED
R6	3900Ω	½	RCC392K	BTS-3900	Antenna Coil Shunt
R7	47KΩ	½	RCC473M		RF Amp. Grid
R8	10KΩ 10%	½	RCC103K		RF Amp. Coil Shunt
R9	2200Ω	½	RCC222M	BTS-2200	RF Amp. Plate
R10	4700Ω	½	RCC472M	BTS-4700	Mixer Grid
R11	220KΩ	½	RCC224M		Mixer Grid
R12	15KΩ	½	RCC153M		Mixer Plate
R13	10KΩ 10%	½	RCC103K		Osc. Grid
R14	4700Ω 10%	½	RCC473M	BTS-4700	Osc. Plate
R15	10KΩ	½	RCC103K		1st Video IF Amp. Grid
R16	56Ω 10%	½	RCC560K		1st Video IF Amp. Cathode
R17	100Ω	½	RCC101M	BTS-100	1st Video IF Amp. Decoupling
R18	8200Ω 10%	½	RCC822K		2nd Video IF Amp. Grid
R19	56Ω 10%	½	RCC560K		2nd Video IF Amp. Cathode
R20	150Ω 10%	½	RCC151M	BTS-150	AGC Network
R21	150Ω	½	RCC151M	BTS-150	AGC Network
R22	100Ω	½	RCC11M	BTS-100	Decoupling
R23	22KΩ	½	RCC223M		2nd Video IF Amp. Coil Shunt
R24	120Ω 10%	½	RCC820K	BTS-120	3rd Video IF Amp. Cathode - See note 1.
R25	100Ω	½	RCC101M	BTS-100	3rd Video IF Amp. Decoupling
R26	2.2Meg	½	RCC225M	BTS-2.2Meg	AGC Network
R27	680KΩ	½	RCC684M	BTS-680K	AGC Diode Load
R28	6800Ω 10%	½	RCC682K	BTS-6800	Video Det. Diode Load
R29	1Meg	½	RCC105M	BTS-1Meg	Video Amp. Grid
R30	82Ω 10%	½	RCC820M	BTS-82	Voltage Divider
R31	82K 10%	1	RCF823K	BTA-82K	Video Amp. Screen
R32	5600Ω 10%	2	RCC562K	BTB-5600	Video Amp. Plate
R33	2200Ω 10%	½	RCC222M	BTS-2200	Picture Tube Grid
R34	270KΩ 10%	½	RCC274M	BTS-270K	Sync. Sep. Cathode
R35	1Meg	½	RCC105M	BTS-1Meg	Sync. Sep. Plate
R36	47KΩ	½	RCC473M	BTS-47K	Voltage Divider
R37	220KΩ	½	RCC224M	BTS-220K	Voltage Divider
R38	4700Ω 10%	½	RCC472K	BTS-4700	Sync. Phase Inv. Cathode
R39	2200Ω 10%	½	RCC 222K	BTS-2200	Sync. Phase Inv. Cathode
R40	10KΩ	½	RCC103K	BTS-10K	Sync. Phase Inv. Plate
R41	22KΩ	1	RCF223K	BTA-22K	Sync. Phase Inv. Plate
R42	470KΩ	½	RCC474M		Sound IF Amp. Grid
R43	82Ω 10%	½	RCC820M	BTS-82	Sound IF Amp. Cathode
R44	82KΩ 10%	1	RCF823M		Sound IF Amp. Decoupling
R45	47KΩ	½	RCC473M		De-emphasis
R46	6800Ω 10%	½	RCC682K	BTS-6800	Ratio Det. Diode Load
R47	6800Ω 10%	½	RCC682K	BTS-6800	Ratio Det. Diode Load
R48	10Meg	½	RCC106M	BTS-10Meg	A/F Amp. Grid
R49	390Ω 10%	1	RCF391M	BTA-390	Audio Output Cathode
R50	1500Ω 10%	½	RCC152M	BTS-1500	Vert. MV Cathode
R51	100KΩ 10%	1	RCF104M	BTA-100K	Vert. MV Plate
R52	150KΩ 10%	½	RCC154M	BTS-150K	Vert. MV Grid
R53	680KΩ	½	RCC684M	BTS-680K	Vert. MV Plate
R54	8200Ω 10%	½	RCC103M	BTS-8200	Vert. Peaking - See note 2.

RESISTORS (CONT.)

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
R55	2.2Meg	½	RCC225M	BTS-2.2Meg	Vert. Output Grid
R56	1500Ω 10%	½	RCC152M	BTS-1500	Vert. Output Cathode
R57	4700Ω	½	RCF472K	BTS-4700	AFC Feedback
R58	27KΩ	½	RCC273K	BTS-27K	AFC Diode Load
R59	100K 10%	½	RCC104K	BTS-100K	Phase Det. Diode Load
R60	100K 10%	½	RCC104K	BTS-100K	Phase Det. Diode Load
R61	470KΩ	½	RCC474M	BTS-470K	Horiz. MV Grid
R62	4.7Meg	½	RCC474M	BTS-4.7Meg	Horiz. MV Grid
R63	1800Ω 10%	½	RCC152K	BTS-1800	Horiz. MV Cathode - See note 3.
R64	3900Ω 10%	½	RCC392K	BTS-3900	Horiz. MV Plate
R65	82K	½	RCC104K	BTS-82K	Horiz. MV Grid - See note 4.
R66	270KΩ 10%	½	RCC274K	BTS-270K	Horiz. MV Plate
R67	4700Ω 10%	½	RCC472M	BTS-4700	Voltage Divider
R68	470KΩ	½	RCC474M	BTS-470K	Horiz. Output Grid
R69	47Ω	½	RCC470M		Parasitic Suppressor
R70	10KΩ	2	RCG103M	BTB-10K	Horiz. Output Screen
R71	5.3Ω	½	RCC053M		Filament Dropping
R72	470KΩ	½	RCF474M		HV Filter
R73A	1000Ω	5	RWT403X		Voltage Divider - Wire Wound
B	3000Ω	5			Voltage Divider - Wire Wound
R74	220K	½	RCC224M	BTS-220K	Line Isolation
R75A	22KΩ	½		BTS-22K	Integrator Network
B	8200Ω		A-1375-6F ♦	BTS-8200	Integrator Network
C	8200Ω			BTS-8200	Integrator Network
R76A	500KΩ	½	A-1376-6F †		A/F Amp. Plate
B	500KΩ				Output Grid

† Items R76A, R76B, C45A, C45B, C45C are combined in one unit.
Note 1. Some models use a 82Ω resistor in this application.
Note 2. Some models use a 10KΩ resistor in this application.
Note 3. Some models use a 1500Ω resistor in this application.
Note 4. Some models use a 100KΩ resistor in this application.
♦ Items R75A, R75B, R75C, C47A, C47B, C47C are combined in one unit.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No.	REPLACEMENT DATA: CHICAGO PART No.
T1	117VAC ②1.7A	680VCT .200ADC	5VAC ③3A	④.7A SEC.4 ⑤1.2A SEC.5 ⑥1.2A	B-1650-13	P-8183 ①	P-3070	TP-370

① Drill New Mounting Holes

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING: DC RESISTANCE PRI.	RATING: DC RESISTANCE SEC	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No.	REPLACEMENT DATA: CHICAGO PART No.	NOTES
T2	385Ω	11.6Ω Tapped ②.6Ω & 7.5Ω SEC.2 ③Ω	B-1675-13A	A-8130	HV0-7		Horiz. Output Trans.
T3	800Ω	12Ω	A-1652-13	A-8113	A-3036	TS0-5 ①	Vert. Output Trans.
T4A	10Ω		B-1652-6	DY-8	MDF-70		Hor. Deflection Coils
B	52Ω						Vert. Deflection Coils

① Drill One New Mounting Hole

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No.	REPLACEMENT DATA: CHICAGO PART No.	INSTALLATION NOTES
T5	4.7KΩ	3.0Ω	360Ω	.5Ω	B-1653-13	A-3877 ①	A-3019	R0-8 ②	② Drill One New Mounting Hole

SPEAKER

ITEM No.	RATINGS: FIELD RES.	RATINGS: V. C. IMP.	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA: QUAM PART No.	NOTES
SP1	PM	3.0Ω		5T-108 Mod. P6-X	6A1	
	CONE DIA.	V. C. DIA.				
SP2	6"	9/16"				

FILTER CHOKE

ITEM No.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA: JACKSON PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No.	REPLACEMENT DATA: CHICAGO PART No.	INSTALLATION NOTES
L1	.200ADC	55Ω	2.2Henry	A-1651-13	C-2325	C-2974 ①	TR-4200 ①	① Drill one new mounting hole.

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

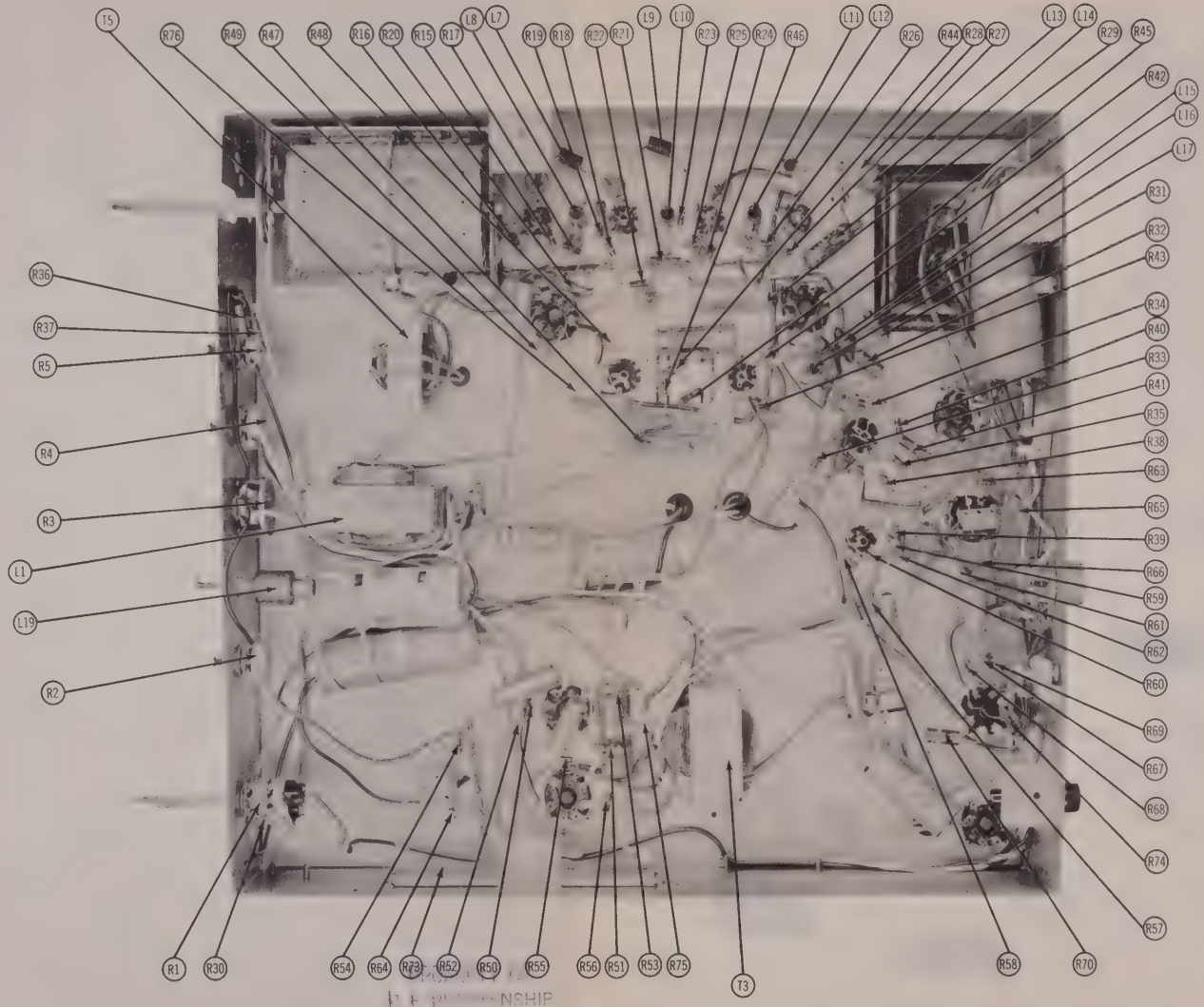
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	JACKSON PART No.	MERIT PART No.	
L2	Ant. Coil	0Ω				Channel 2
L3	Fil. Choke	0Ω				
L4	RF, Mixer Grid & Osc. Coils	0Ω				Channel 2
L5	Fil. Choke	0Ω				
L6	1st. Video IF	.2Ω				
L7	Fil. Choke	0Ω		A-1481-10		
L8	2nd. Video IF	.1Ω		A-1475-10	TV-102	
L9	Fil. Choke	0Ω		A-1481-10		
L10	3rd. Video IF	.1Ω	.2Ω	A-1476-10		
L11	4th. Video IF	.1Ω	.2Ω	A-1476-10		
L12	21.25MC Sound trap	0Ω		A-1480-10	TV-150	
L13	Peaking Coil	4.6Ω		A-1482-10		120 Microhenries
L14	Peaking Coil	14Ω		A-1485-10	TV-188	600 Microhenries
L15	Peaking Coil	6.8Ω		A-1483-10	TV-187	240 Microhenries, Wound on 18KΩ Resistor
L16	Peaking Coil	8.8Ω		A-1484-10	TV-188	380 Microhenries
L17	Sound IF	1.4Ω		A-1477-10		
L18	Ratio Det. Trans.	4.2Ω	.1Ω	A-1478-10	TV-110	Tap at .5Ω
L19	Horiz. Osc.	46Ω		A-1479-10	TV-163	
L20	Width Coil	.25Ω		A-1486-10	MWC-2	

FUSES

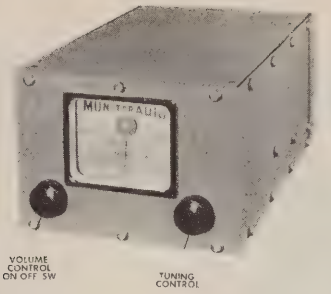
ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			JACKSON PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG	5A-250V	A-3751-30		312005	342001	
M2	3AG	1/4A-250V	A-3750-30		312.250	357001	

MISCELLANEOUS

ITEM No.	PART NAME	JACKSON PART No.	NOTES
M3	RF Tuner	B-4100-33'	
M4	Focus Magnet	B-4101-33	
M5	Ion Trap	A-4102-33	
B1	Trimmer	CVM501ST	50 - 500MMF Horiz. Drive



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION



TRADE NAME	Monitoradio Model M-51A
MANUFACTURER	Radio Apparatus Corp., 55 N. New Jersey, Indianapolis, Ind.
TYPE SET	Battery Operated High Freq. Mobile FM, Superheterodyne Receiver
TUBES (9EVEN)	Types 12AT7 Conv., 6BJ6 1st IF Amp., 6BJ6 2nd IF Amp., 6T8 Ratio Det.-AF Amp., 6AQ5 Audio Output, OB2 Volt. Reg., 6X4 Rectifier
POWER SUPPLY	6 Volt Storage Battery RATING 6.2 Amp. @ 6.3 Volt DC
TUNING RANGE—	FREQ. MOD. 30-50MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning capacitor fully closed and set pointer parallel with base of dial.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (±1%) resistors in series from point Ⓐ to B-. The junction of these two resistors is alignment point Ⓒ as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	.001MFD	High side to pin 1, (grid), of 6BJ6, (V2). Low side to chassis.	10.7MC (unmod)	Tuning gang fully open.	DC probe to point Ⓐ. Common to chassis.	A1, A2 A3	Adjust for max. deflection.
2.	"	High side to pin 2, (grid), of 12AT7, (V1). Low side to chassis.	"	"	"	A4, A5	"
3.	"	"	"	"	DC probe to point Ⓑ. Common to point Ⓒ.	A6	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC Sweep. Use 120 sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
1.	.001MFD	High side to pin 1, (grid), of 6BJ6, (V2). Low side to chassis.	10.7MC (450KC Swp)	Point of non-interference.	Vert. Amp. to point Ⓐ. Low side to chassis.	A1, A2 A3	Disconnect stabilizor capacitor C2. Adjust for maximum amplitude and symmetry as per fig. 1.
2.	"	High side to pin 2, (grid), of 12 AT7, (V1) Low side to chassis.	"	"	"	A4, A5	"
3.	"	"	"	"	Vert. Amp. to point Ⓑ. Common to chassis.	A6	Reconnect capacitor C2. Adjust A6 so 10.6MC occurs at center of crossover lines as per fig. 2. SLIGHTLY retouch A1 for maximum amplitude and straightness of crossover lines.

RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
4.	Direct	High side to antenna receptacle. Low side to chassis.	46MC (unmod)	46MC	DC probe to point Ⓐ. Common to chassis.	A7, A8	Adjust for maximum deflection.
5.	"	"	34MC	34MC	"	A9	Check tracking at 34MC. If necessary adjust A9 for proper calibration. If A9 is changed repeat steps 4 and 5 until no further improvement can be made.

PROPERTY OF
U.E. BLANKENSHIP
3924 MEADE ST.
DENVER COLORADO

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MONITORADIO
MODEL M-51A

MONITORADIO
MODEL M-51A

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RTMA BASE TYPE	INSTALLATION NOTES
		MONITORADIO PART No.	STANDARD REPLACEMENT		
V1	Converter	12AT7	12AT7	9A	
V2	1st IF Amp.	6BJ6	6BJ6	7CM	
V3	2nd IF Amp.	6BJ6	6BJ6	7CM	
V4	Ratio Det. -AF Amp.	6T8	6T8	9E	
V5	Audio Output	6AQ5	6AQ5	7BZ	
V6	Volt. Reg.	0B2	0B2	5BD	
V7	Rectifier	6X4	6X4	5BS	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

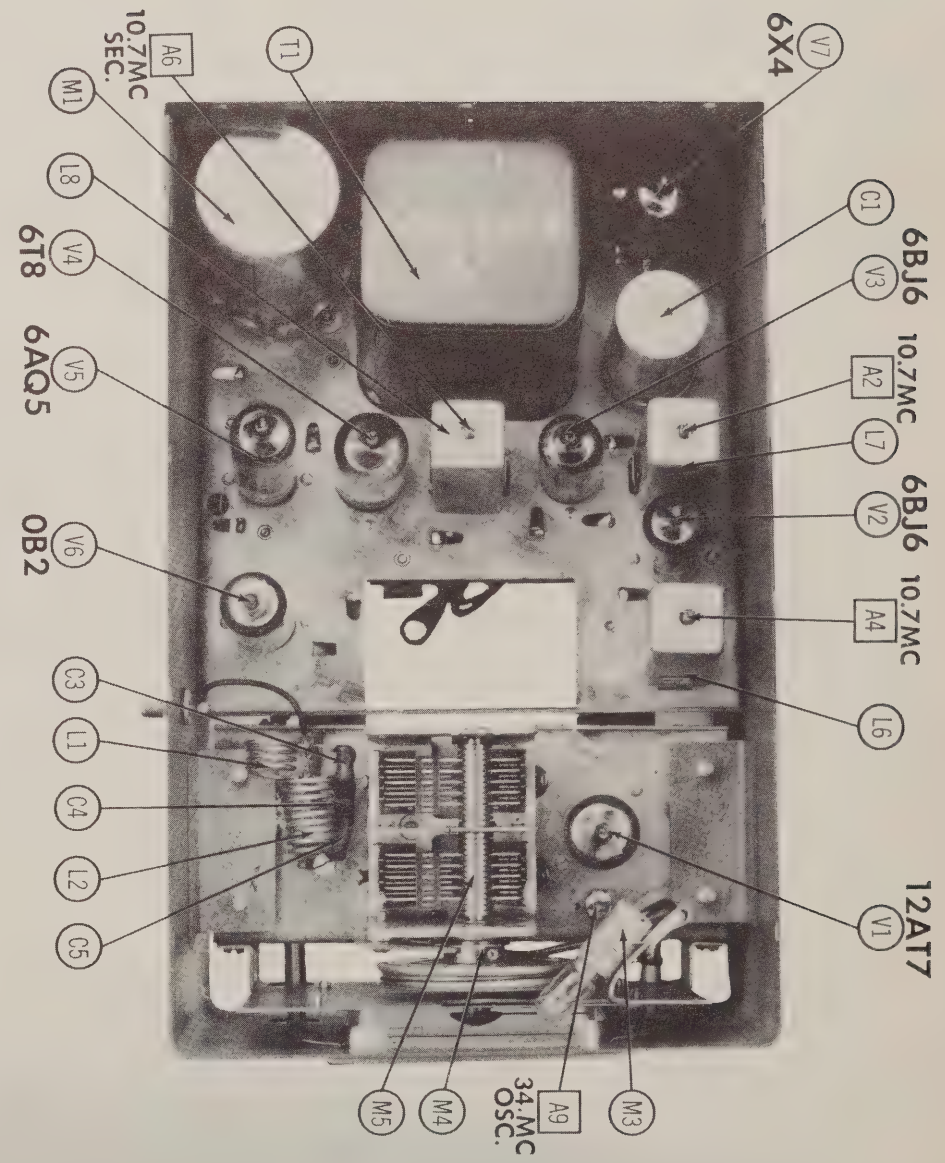
ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	MONITORADIO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	20	250	B-300-082-5	AFH3-97		UP2230C		TVL-3565	▲ Filter
B	20	250							■ Filter
C	20	25							Output Cathode
C2	2	50		PRS150/4		BBR-2-50		TVA-1301	Stabilizing Cap.
C3	30			SI30		5W5Q3	GP1K-300	MS-43	Fixed Trimmer
C4	75			SI75	D6-750		GP1K-750	1FM-475	Fixed Trimmer
C5	75			SI75	D6-750		GP1K-750	1FM-475	Fixed Trimmer
C6	30			SI30		5W5Q3	GP1K-300	MS-43	Fixed Trimmer
C7	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	Conv. Plate Dec.
C8	27	500	PQ			5R5Q3		MS-43	Osc. Grid Cap.
C9	150	500		1469-00015		5R5T15			Fixed Trimmer
C10	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	Conv. Cathode
C11	2.7		A100-203				NP0K-2R7		Osc. Feedback
C12	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	1st IF Amp. Dec.
C13	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	1st IF Amp. Cathode
C14	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	1st IF Amp. Fil.
C15	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	RF Bypass
C16	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	2nd IF Amp. Dec.
C17	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	2nd IF Amp. Cathode
C18	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	2nd IF Amp. Fil.
C19	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Ratio Det. Fil. *
C20	100	500		1468-0001	D6-101	5W5T1	GP1K-101	5GA-T1	Diode Load Cap.
C21	100	500		1468-0001	D6-101	5W5T1	GP1K-101	5GA-T1	Diode Load Cap.
C22	1000		JCD-A2	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	De-emphasis
C23	.01	400	365-35	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
C24	270			SI270	D6-271	5W5T3	GP2K-271	5GA-T27	AF Amp. Grid Filter
C25	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Audio Coupling
C26	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	Audio Output Plate
C27	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	RF Bypass
C28	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	RF Bypass
C29	.0075	1600	OW-346	P1688-0075		PTE16D75		MB-D75	Buffer Cap.
C30	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Buffer Cap.
C31	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Buffer Cap. *
C32	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Hash Filter
C33	10000		JCD-D7	SI10000	D6-103	1D3S1	GP2-333-103	5HK-S1	Hash Filter
C34	5000		JCD-C4	SI5000	D6-502	1D5D5	GP2-333-502	5HK-D5	Hash Filter

* Not used in all models.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	Monitoradio PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	1Meg	½	A-100-093-5	Q13-137	AG-63-Z	BSK-70-S	Volume Control & Sw
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Attach to R1A per instructions.
C	Switch		Not Req.	76-1	SWB	Not Req.	Attach to R1A per instructions.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MONITORADIO PART No.	IRC PART No.	
R2	68Ω	½			Parasitic Suppressor
R3	1KΩ	½		BTS-1K	Mixer Cathode
R3	10KΩ	½			Osc. Grid
R4	1KΩ	½		BTS-1K	Converter Decoupling
R5	4700Ω	2		BTB-4700	Converter Decoupling
R6	82Ω	½		BTS-82	1st IF Amp. Cathode
R7	470Ω	½		BTS-470	1st IF Amp. Decoupling
R8	82Ω	½		BTS-82	2nd IF Amp. Cathode
R9	470Ω	½		BTS-470	2nd IF Amp. Decoupling
R10	2700Ω	4			Decoupling
R11	47KΩ	½			De-emphasis
R12	47KΩ	½		BTS-47K	Ratio Det. Diode Load
R13	10Meg	½		BTS-10Meg	AF Amp. Grid
R14	220KΩ	½		BTS-220K	AF Amp. Plate
R15	470KΩ	½		BTS-470K	Audio Output Grid
R16	330Ω	1		BTA-330	Audio Output Cathode
R17	270Ω	4			Filter
R18	15KΩ	½		BTS-15K	Hash Suppressor

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	Monitoradio PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	6.3VDC	450VCT			B-300-123-2	P-6471 ①	P-4079 ①	VT-5 ①
	ⓐ 3.7ADC	.072ADC						

① Drill new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		Monitoradio PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T2	3.7KΩ	3.0Ω	180Ω	.6Ω	Part of B-300-108	A-3856 ②	A-2900 ②	RO-301 ②	② Bend mounting tabs down, file out slots and mount on original bracket.

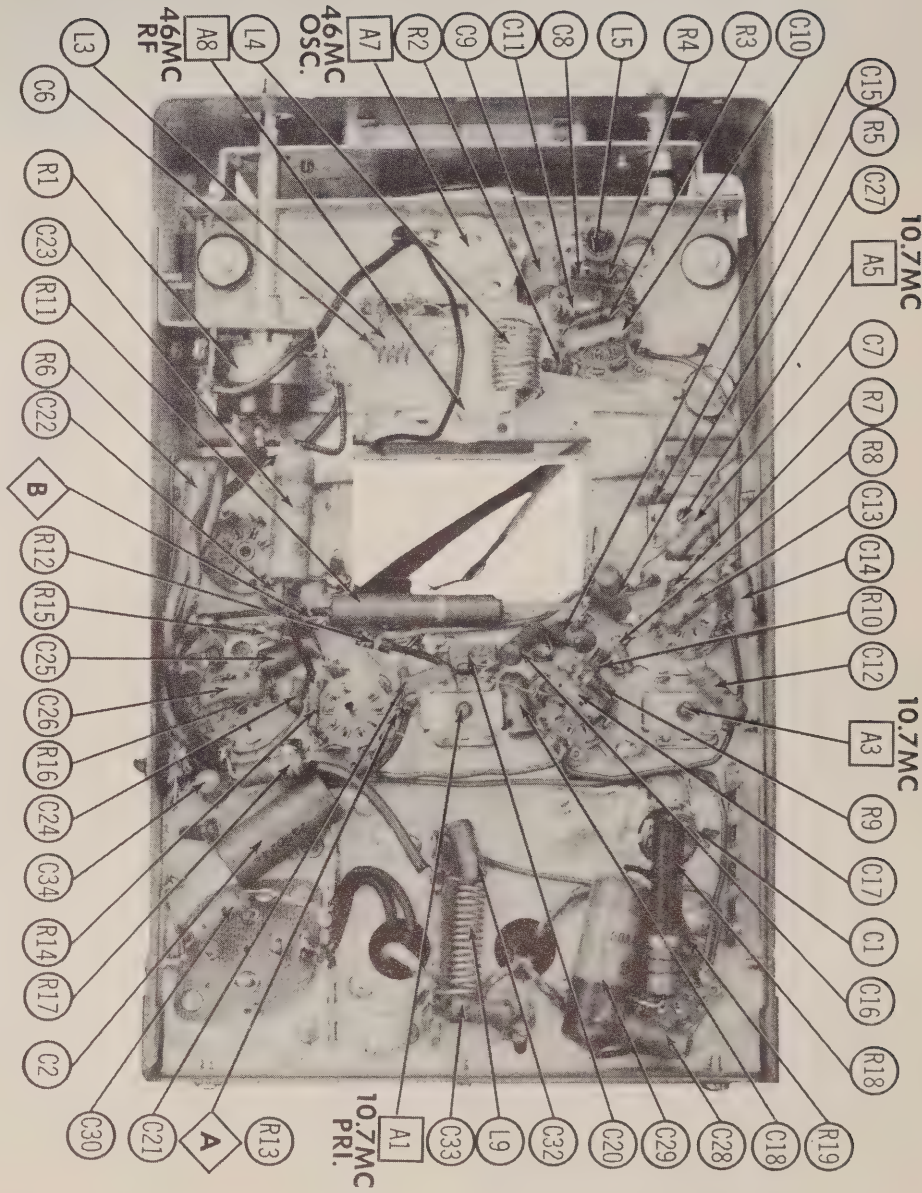
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	Monitoradio PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	P.M.	3.0Ω	Part of B-300-108			
	CONE DIA.	V. C. DIA.				
SP1B	4 7/8 in.	9/16 in.				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	Monitoradio PART No.	MERIT PART No.	
L1	Ant. Loading Coil	0Ω		B-300-097-1		
L2	RF Choke	0Ω		B-300-097-3		
L3	Ant. Loading Coil	0Ω		B-300-097-1		
L4	Ant. Coil	0Ω		A-100-189		
L5	Osc. Coil	0Ω		B-300-096-2		
L6	Input IF	.7Ω	.7Ω	B-300-077-2	FM-254	
L7	Output IF	.7Ω	.7Ω	B-300-077-2	FM-254	
L8	Ratio Det. Trans.	2.2Ω	.2Ω	106-5	FM-255	Tap ⓐ .5Ω
L9	Hash Choke	.1Ω		A-100-192		

CHASSIS—BOTTOM VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA			INSTALLATION NOTES
				Monitoradio PART No.	CORNELL-DUBILIER PART No.	RADIART PART No.	
M1	Interrupter	6.3	115~	659	5301	5301	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			Monitoradio PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M2	3AG	10A, 32V			311010	155020	

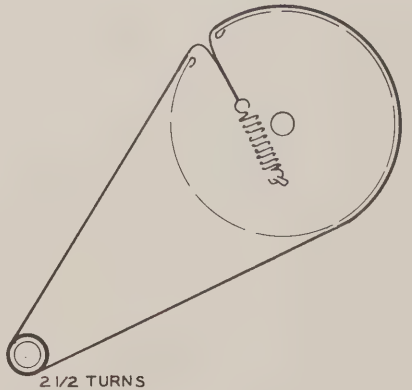
DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					Monitoradio PART No.		
M3	Bayonet	6-8	.15	Brown			Type #47

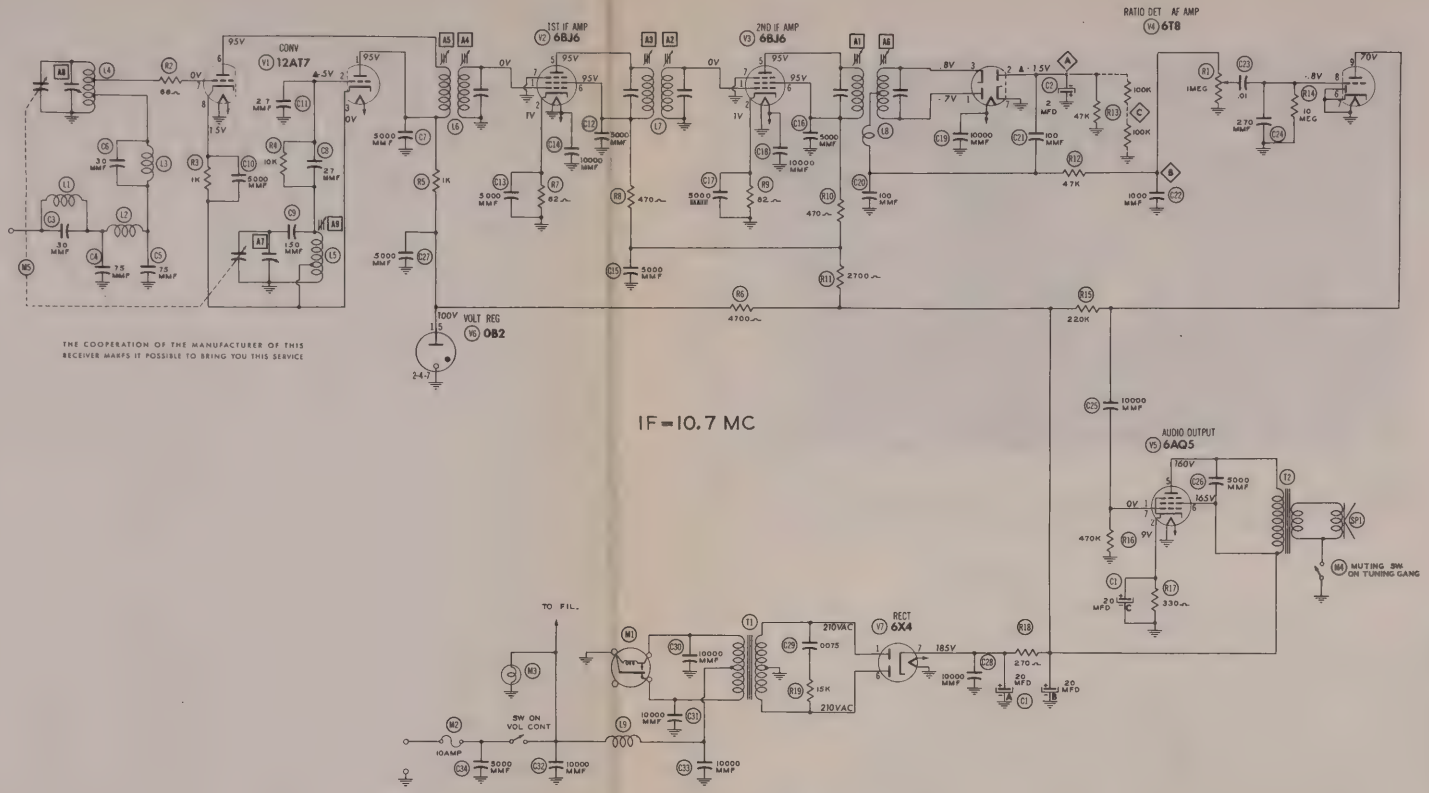
MISCELLANEOUS

ITEM No.	PART NAME	Monitoradio PART No.	NOTES
M4	Switch		Speaker Shorting
M5	Tuning Gang	B-300-107-2	
A7	Trimmer	TS2A-N300	Osc. Adj. (5-20MMF)
A8	Trimmer	TS2A-N300	Ant. Adj. (5-20MMF)

TUNING GANG FULLY CLOSED



DIAL CORD DRIVE



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	12AT7	†6KΩ	10KΩ	0Ω	.4Ω	.4Ω	†6KΩ	68Ω	1KΩ	0Ω
V 2	6BJ6	.6Ω	82Ω	0Ω	.4Ω	†3.4KΩ	†3.4KΩ	0Ω		
V 3	6BJ6	.6Ω	82Ω	0Ω	.4Ω	†3.4KΩ	†3.4KΩ	0Ω		
V 4	6T8	1Meg	47KΩ	1Meg	.4Ω	0Ω	0Ω	0Ω	10Meg	†220KΩ
V 5	6AQ5	470KΩ	330Ω	.4Ω	0Ω	†450Ω	†270Ω	470KΩ		
V 6	0B2	†5KΩ	0Ω	INF	0Ω	†5KΩ	INF	0Ω		
V 7	6X4	160Ω	15KΩ	.4Ω	0Ω	0Ω	170Ω	30KΩ		

1 - DC Voltage measurements are at 20,000 ohms per volt, AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

▲ TAKEN WITH VACUUM TUBE VOLTMETER
† MEASURED FROM PIN 7 OF V7

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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PENTRON
MODEL 9T-3C

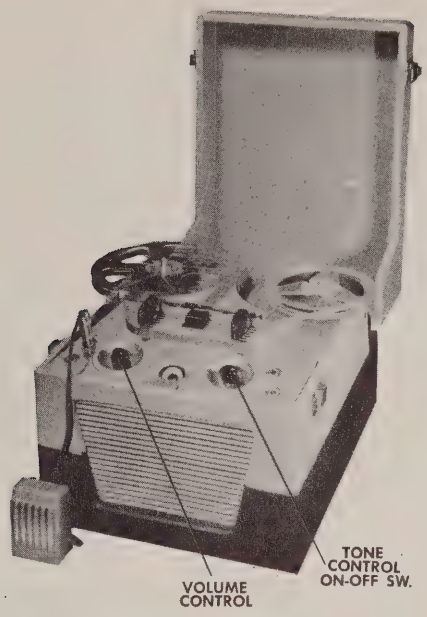

Figure 1

PENTRON
MODEL 9T-3C

GENERAL INFORMATION

The Pentron Model 9T-3C Recorder is designed to magnetically record on a standard 5-inch or 7-inch reel of 1/4-inch wide tape, two tracks instead of one, which doubles the playing time with no loss in frequency response or quality. Recordings may be made at the speeds of 3.75 inches per second or 7.5 inches per second. The amplifier equalizes automatically at either speed.

The Pentron 9T-3C has two amplifier controls; "On-Off-Tone" control and "Volume" control. There are two inputs; "Radio" and "Microphone" and two outputs; "External Amplifier" and "External Speaker."

The Magic Eye Recording Indicator gives positive recording control and accurate playback level at all times, eliminates guesswork.

A Positive Interlock Control Switch, which is incorporated in the Pentron, prevents accidental erasure and tape spillage. One control cannot be used, until the other has been returned to a neutral position.

Manufactured by:
The Pentron Corporation
221 East Cullerton Ave.,
Chicago 16, Illinois

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST
DENVER, COLORADO

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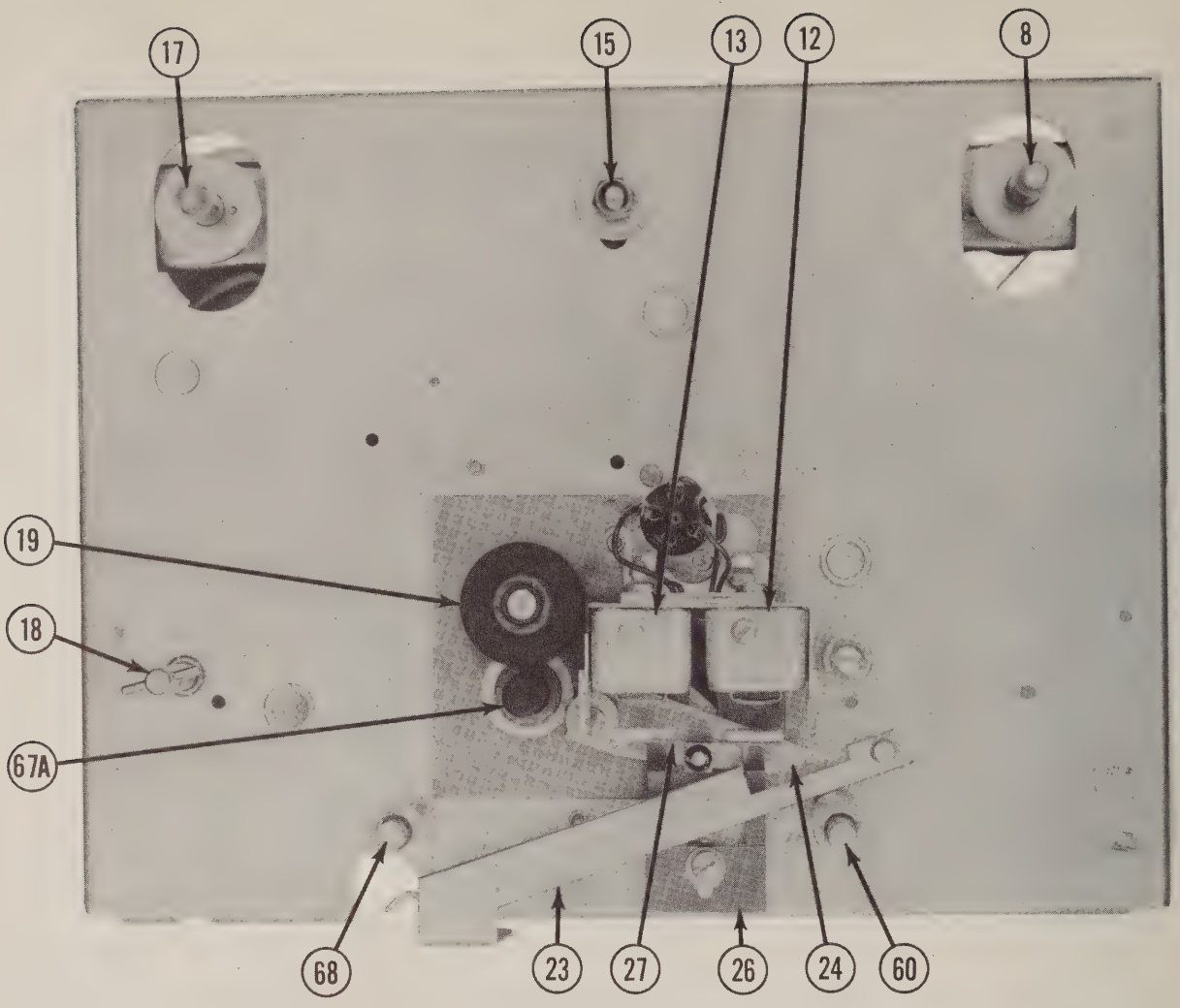


Figure 2

SPECIFICATIONS

Frequency Range -

7-1/2" per second - 50 to 8000 cycles.
3-3/4" per second - 50 to 5000 cycles.

Recording Time -

2 hours on 7" reel at 3-3/4" per second.
1 hour on 5" reel at 3-3/4" per second.
1 hour on 7" reel at 7-1/2" per second.
1/2 hour on 5" reel at 7-1/2" per second.

Fast Forward and Rewind -

20 to 1, or 70 seconds for 1200 feet.

Speaker - 6" PM - Alnico V -

4 watt to the speaker undistorted.

Power Consumption - 80 watts full load.

Line Voltage -

105/120 volts AC, 60 cycles.

Signal to Noise Ratio - 50 db -

Flutter - less than 0.5%.

OPERATING INSTRUCTIONS

To Prepare the Pentron for Recording -

1. Remove the lid from the carrying case.

2. Plug the power cord into a convenient receptacle of the proper rating.

3. Place a reel of tape on the right hand spindle (Feed Reel), so that it is pulled from the reel in a clockwise direction.

NOTE: The Pentron Recorder uses Type "A" wound tape i.e. the dull magnetic coated side faces the center of the reel. If the recording tape to be used is Type "B" (coated side facing outward), place the full reel on the left hand spindle (Take up Reel) so the tape will unwind in a counterclockwise direction. Place an empty reel on the right hand spindle. Thread the tape through the recording slot, and on to the empty reel in a manner so the dull side of the tape faces inward. The tape will then wind on the empty reel in a half twist. Turn the "On-Off-Tone" control switch to the "On" position. This supplies the power to the amplifier and the motor. Turn the "Wind-Rewind" knob to "Rewind" and allow the entire reel of tape to wind on the right hand reel.

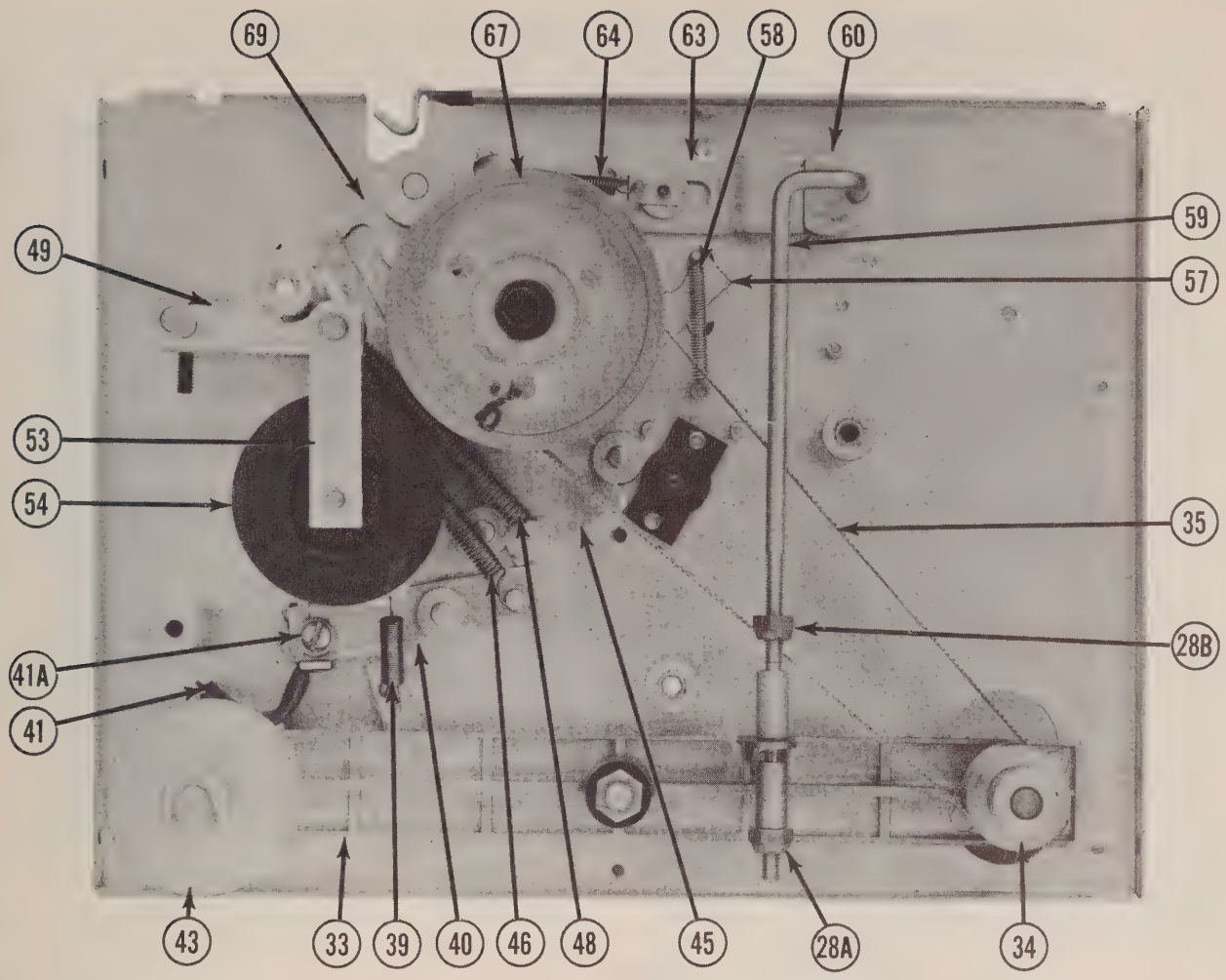


Figure 3

4. Place an empty reel on the left hand spindle (Take up Reel Spindle). Be sure that both reels are engaged with the drive pins on the spindle.

5. Pull about two feet of tape from the Supply Reel and insert the loose end of the tape into one of the slots in the take up reel. Use a lead pencil to hold the tape in place and rotate the reel clockwise until the tape is secured to the reel.

6. Now drop the tape into the recording slot. Make sure the dull magnetic side of the tape is facing the recording heads and that the tape is not in a twist.

7. Rotate the take up reel clockwise until all slack in the tape is removed.

8. Set the speed change pin (18) so the recorder will run at the proper speed desired, 3-3/4" per second, or 7-1/2" per second.

NOTE: For 3-3/4" per second operation, turn the equalization or speed change pin (18) clockwise then pull the pin up as far as it will go then release the pin. This engages the idler wheel (54) with the small O.D. on the motor pulley (70). For 7-1/2" per second, turn the pin (18) clockwise and push it down as far as it will go then release. The idler wheel will then engage a larger O.D. of the motor pulley. The equalization switch (73) is also actuated at the same time by the speed change pin (18) when it is raised or lowered.

Microphone Recording -

1. After the recorder has been properly prepared for recording as described above, plug the microphone into the Mic. input jack located on the left side of the front cover (6).

2. Turn the "Tone-On-Off" control switch to the "On" position.

NOTE: When a green glow appears in the Volume Indicator Eye, the unit will be ready to make a recording.

3. Before making a recording it is generally advisable to set the volume at the proper level. To do this, hold down the record lock button (4) and while talking into the microphone in a natural tone, adjust the "Volume" control until the eye closes on peak signals.

4. While holding the lock button in the down position, turn the "Play-Record" knob to "Record." A recording is now being made and whatever sounds enters the microphone will be recorded on the tape.

To Record Directly from Radio or Phonograph -

1. To record from radio or phonograph, set the con-

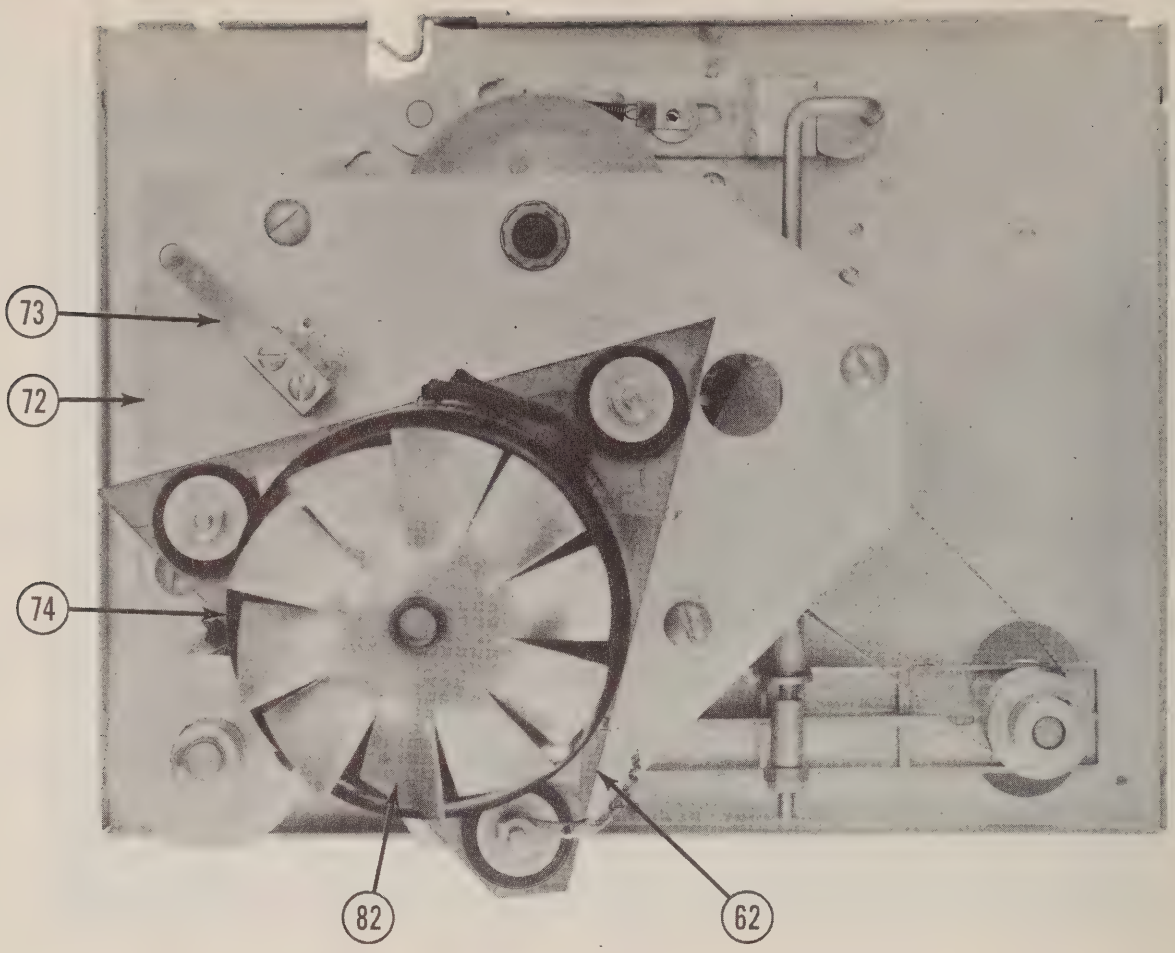


Figure 4

trols the same as for "Microphone Recording."

2. Plug the phonograph or radio tuner into the "Radio" input jack. A recording is now being made on the tape. (Be sure to turn "Play-Record" knob to Record position.)

NOTE: When recording from an external source, such as FM, AM, or phono pickup, the program may be heard by plugging earphones into the "Amplifier" output jack.

Dual Track Recording -

1. After a reel of tape has been recorded in one direction a second track may be recorded on the same reel, which doubles the playing time with no loss of frequency response or quality. This is done by removing the full reel from the take up spindle (17), turning it over and placing it on the feed reel spindle (8). The empty reel will then be placed on the take up spindle.

2. After the reels have been replaced, properly thread the tape and proceed with the recording in the usual manner.

3. After this track has been recorded, the first track of recording is ready to be played without rewinding.

4. To play the first track of recording, place the full reel on the right hand spindle, making sure it unwinds clockwise. Place the empty reel on the left hand spindle.

5. Thread the tape, then set the controls as described under "To Play a Recording."

To Play a Recording -

1. With the tape properly threaded turn the "Tone" control switch on and wait until the "Volume Indicator Eye" lights up.

2. Turn the "Play-Record" knob to "Play" position.

3. Adjust the "Volume" and "Tone" controls to suit.

Wind and Rewind -

1. To rewind a portion of the tape or the entire reel, merely turn the "Wind-Rewind" knob to "Rewind" with the "Play-Record" knob in "Idle." The tape will now rewind at a high rate of speed until the control knob is turned to "Neutral." (The speed change pin should be set for 7-1/2 inch per second for the fastest wind or rewind.)

NOTE: Switching the direction of the "Wind-Rewind" i. e. from "Wind" to "Rewind," or vice versa, will act as a very effective brake in cutting down the speed of the reels and it is recommended that this method be used where fast stopping is necessary. However, it is better for the mechanism if this fast-braking is used moderately.

2. If a portion of a recording is to be skipped it may be done by turning the control knob to "Wind" with

the "Play-Record" knob in "Idle." The tape will now wind forward at a high rate of speed until the knob is turned to "Neutral."

CAUTION: Never go from Fast Rewind or Fast Wind into Play or Record without first bringing the reels to a stop. Failure to do so may result in tape spillage and possibly torn tape.

1. To use the Pentron 9T-3C Tape Recorder with an external amplifier, simply connect the input of the external amplifier to the "Amplifier" output jack of the recorder, which is located on the right side of the top cover (6).

2. Turn the "Volume" control to about the mid-position.

3. Turn the "Play-Record" knob to "Play."

4. Use the volume and tone controls on the external amplifier for proper adjustment.

5. The internal speaker may be silenced by plugging a shorted phone plug into the speaker output jack.

Use of External Speaker -

1. An external speaker (3.2 ohm voice coil) may be used with the recorder by connecting a cable across the voice coil of the speaker and then plugging the other end into the "Speaker" output jack of the recorder.

2. For privacy of playback a set of low impedance earphones can be plugged into the "Speaker" output jack.

FUNCTIONS OF PRINCIPAL PARTS

Tone Control -

The tone control not only serves as the tone control, but also contains the master switch which turns the amplifier and mechanism Off and On.

The Tone control is automatically disconnected during recording, therefore, when recording from a radio be sure the tone control on the radio is set for maximum treble. These highs may be subdued with the "Tone" control in the recording during playback.

Volume Control -

The "Volume" control regulates the volume for both playback and recording.

Wind and Rewind - (Refer to Figure 3) -

When the control knob is turned to "Wind" the tie rod (59) is actuated, causing the equalizer bar (33) to be pivoted clockwise. This causes the take up belt (44) to become taut, which, in turn, drives the take up spindle at a high rate of speed.

When this knob is turned to Rewind, the equalizer bar is pivoted counterclockwise by the tie rod, causing the feed belt (35) to become taut, thus causing the tape to rewind at a high rate of speed.

Safety Lock -

The safety lock button (4) when depressed, engages the safety lever (23) which in turn actuates the "Play-Record" switch of the amplifier thus closing the circuit for recording. The safety lever (23) is held in this downward position by cam (69), when the "Play-Record" knob is turned to "Record." The main purpose of this record safety lock is to prevent the mechanism from being turned to "Record" unless a recording is to be made. Therefore, this safety devise prevents accidental erasing of recorded material.

Play-Record Control - (Refer to Figure 3) -

When the "Play-Record" control knob is turned to "Play", the pressure roller slide plate (45) is actuated due to the slide plate being held against the control cam (69) by the pressure roller spring (48). This forward movement of the slide plate engages the pressure roller (19) with the capstan (67A), which, in turn, drives the tape at a constant speed. The take up bar (40), which is held against the end of the slide-plate by spring (46), is pivoted as the slide plate moves forward. This causes the boot on the take up adjusting spring (41) to press against the equalizer bar with just enough pressure for the take up belt (44) to rotate the take up spindle so as to wind the tape on the reel. This acts as a clutch by allowing the belt to slip, due to the slower speed of the capstan. Also by the movement of the slide plate (45) pressure is removed from lever (57) which has been engaged with the pressure pad pivot pin on the pressure arm lever (24) which holds the pressure pads away from the heads. When the pressure is removed from the lever (57), the pressure pad spring (58) pulls the pressure arm lever (24) inward causing the pressure pads to bear against the tape to hold it in positive contact with the heads. The operation for this control is the same when turned to "Record," except the Lock Button (4) must be depressed first.

Mechanical Interlock - (Refer to Figure 3) -

The automatic mechanical interlock (63) makes it impossible to actuate one control knob while the other is being used. Therefore, do not attempt to force the knobs.

Volume Indicator Eye -

The volume indicator eye is intended for use during recording. The correct recording volume level is attained when the loudest portions of the signal cause the eye to close. If too high a level is used, distortion will occur, This is indicated by the eye overlapping. Too low a recording level will result in relatively higher background noises.

ADJUSTMENTS

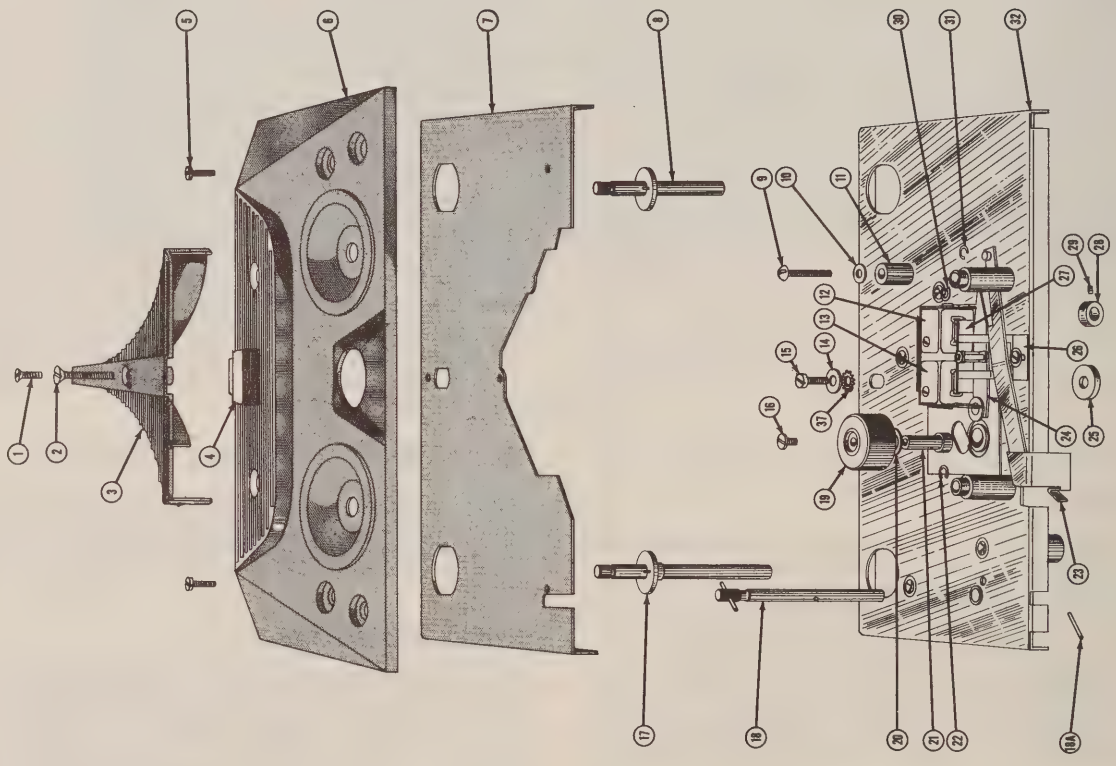
Traction or "Drag" on Reel Spindles -

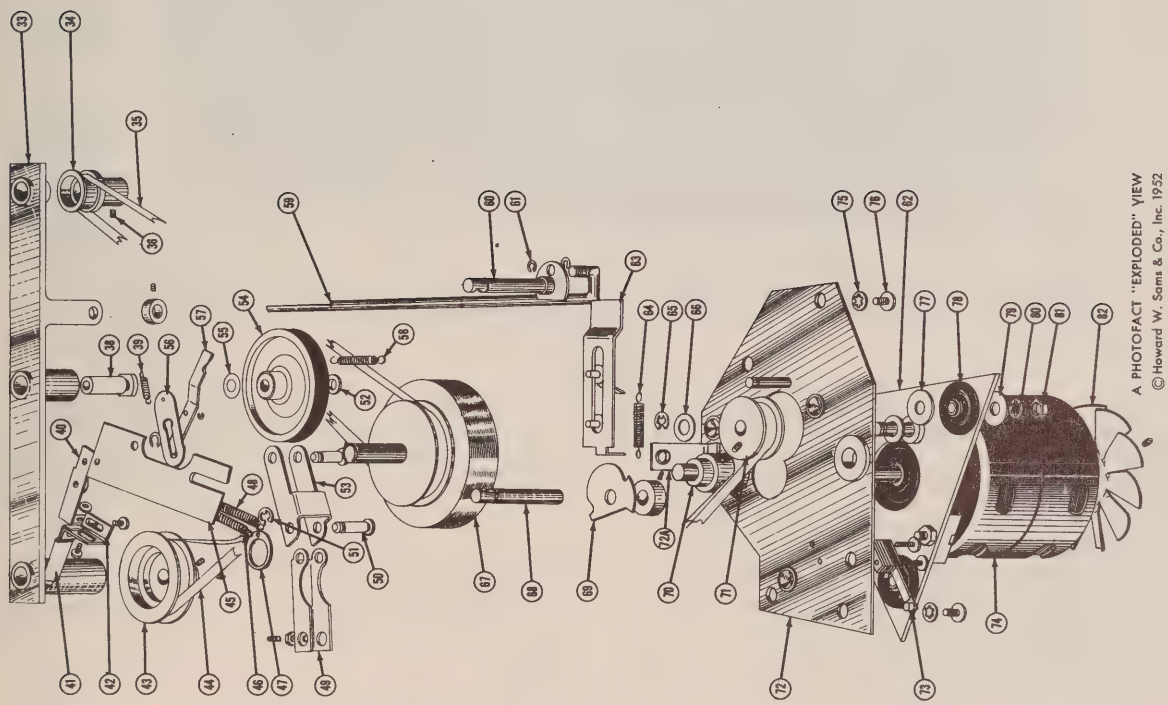
This adjustment is made by loosening the cap screw (15) and shifting the equalizer bar (33) forward or backward. See Figure 2.

NOTE: To gain access to the cap screw (15), remove the rear head cover (3).

Make the adjustment as follows:

With the controls in "Idle and Neutral", move the equalizer bar (33) to a position such that when one of the reel spindles is grasped with the fingers and pushed backward and forward with rather firm pressure,





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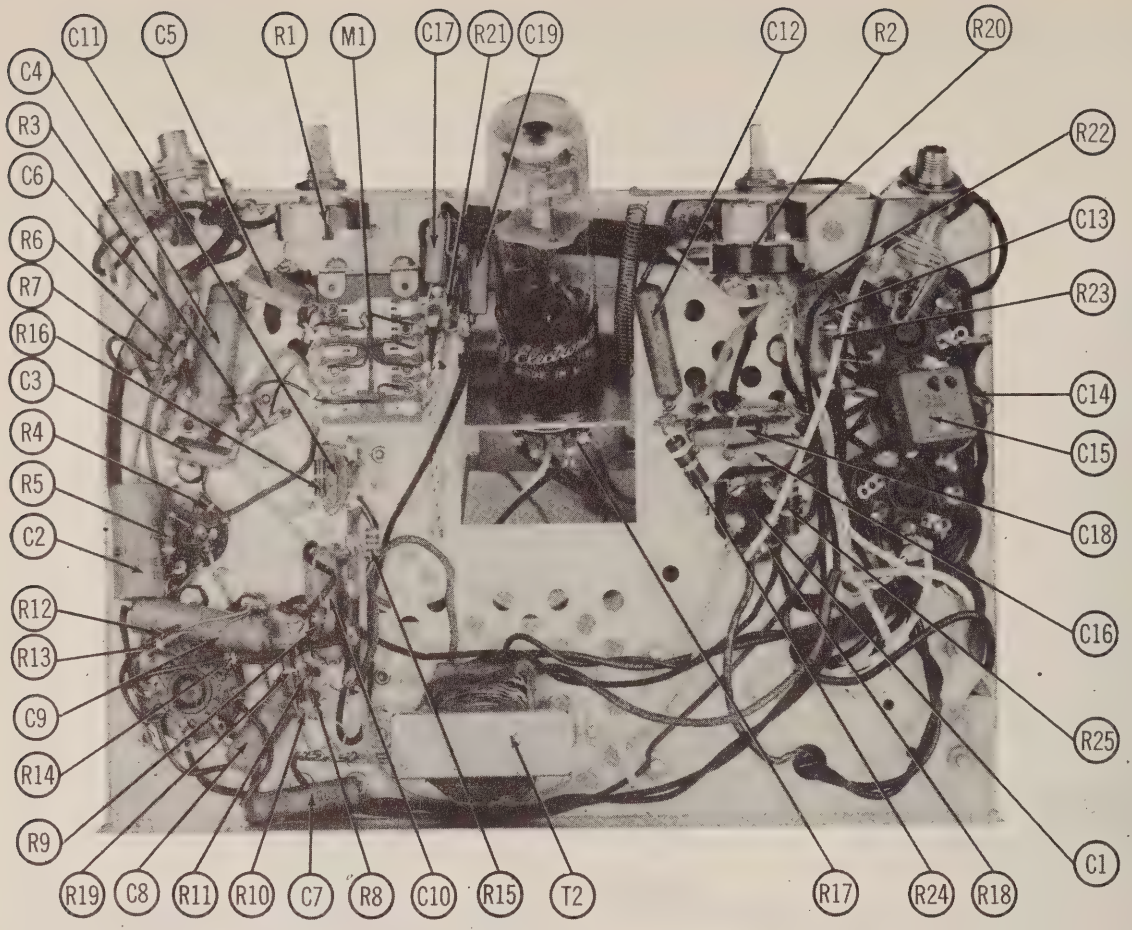


Figure 5

the movement of the spindle is about an eighth of an inch. Be sure screw (15) is tightened securely.

Take-Up on Take-Up Reel -

Take up adjustment for the "Take Up Reel" is required if, when the control knob is placed in the "Play" or "Record" position, a loop of tape feeds out from the capstan and roller (19) before the "Take Up Reel" starts turning, or if the take up is excessive so as to load the motor and reduce the tape speed.

This adjustment is accomplished by loosening the screw (41A), and holding the finger (41), see Figure 3. Moving the finger toward the equalizer bar decreases the time required for the "Take Up Reel" to start turning, and of course, the finger must be moved away from the equalizer bar to increase the time.

TROUBLES

Motor Runs but Flywheel (67) Fails to Turn -

1. Idler wheel (54) not contacting the motor pulley (70).
   (a) Check the speed control shaft (18) to see if it is properly positioned. If the control shaft (18) is midway between the speed setting 3-3/4" per second and 7-1/2" per second the idler wheel will not engage the motor pulley. The control shaft must be turned clockwise and pushed down as far as it will go for 7-1/2" per second or pulled upward as far as it will go for 3-3/4" per second.
   (b) Check spring (39) to see if it is properly connected. If this spring is not connected the idler wheel will not be held in engagement with the motor pulley.

Tape Rewinds at Fast Speed but Fails to Wind -

1. Check the equalizer bar to see if it is adjusted properly. See "Traction" or "Drag" on Reel Spindles.
2. Tie rod (59) out of adjustment.
   (a) Tie rod collar (28A) loose or located too near the end of the tie rod (59). Relocate tie rod collar (28A) inward until the tape winds properly on the "Take Up Reel" in "Wind" position.
3. Take up belt (44) worn badly or broken. Replace.
4. Take up pulley (43) loose on take up shaft (17).

Tape Winds at Fast Speed but Fails to Rewind -

1. Check the equalizer bar to see if it is adjusted properly. See "Traction" or "Drag" on Reel Spindles.
2. Tie Rod (59) out of adjustment.
   (a) Tie rod collar (28B) loose or located too near the front of the recorder. Move tie rod collar (28B) toward the back until the tape winds properly on the Feed Reel in the "Rewind" position.
3. Rewind belt (35) badly worn or broken. Replace.

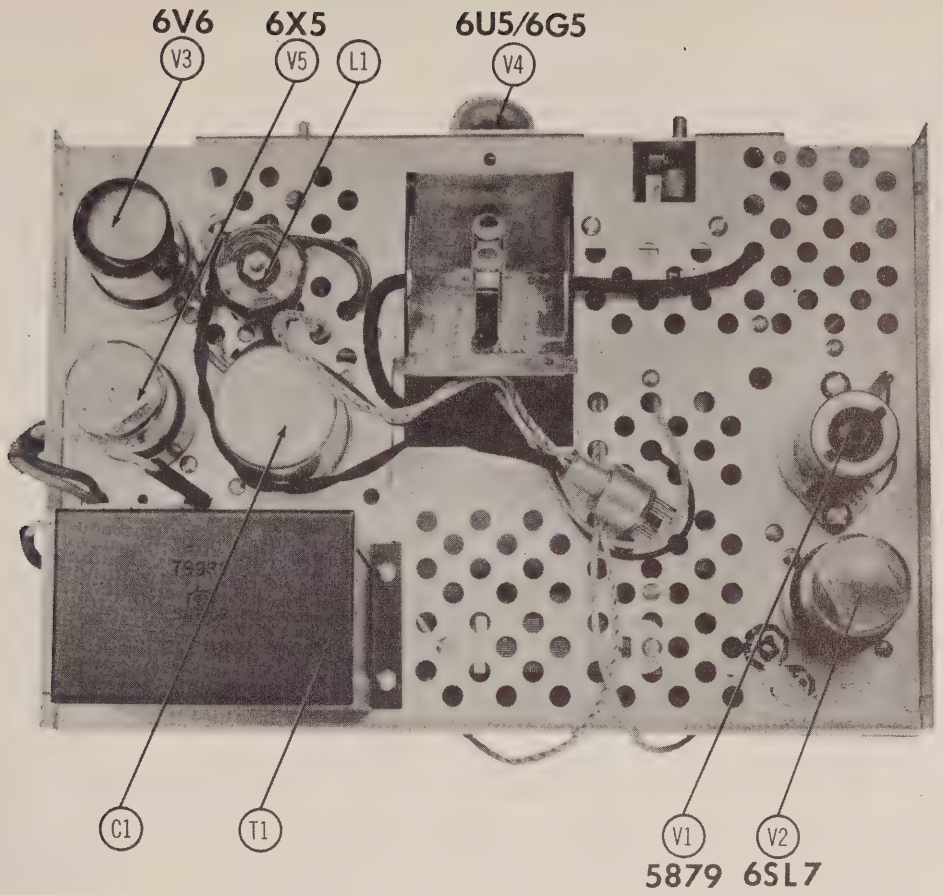


Figure 6

4. Rewind pulley (34) loose. Tighten the pulley.

Tape Fails to Wind on Take Up Reel When in "Play" or "Record" Position -

1. Take Up belt (44) may be broken.

2. Rubber boot (41) not contacting equalizer bar. See Adjustment "Take Up on Take Up Reel".

3. Take up pulley (43) loose on shaft (17). Tighten.

4. Spring (46) not connected. See Figure 3.

5. Take up spindle binding. Remove and clean.

Wind-Rewind Control Operates but Play-Record Control Will Not -

1. Spring (64) not connected. If spring (64) is not connected, the automatic interlock (63) will not slide back to its normal position when the Wind-Rewind Control is turned to "Neutral," therefore preventing the Play-Record control from being turned.

Poor Recording and Playback -

1. Head Pole Piece dirty.
   (a) The pole pieces of the Record-Playback and Erase heads (12) and (13) are subject to an accumulation of tape coating residue, which is worn off as the tape passes the heads. This condition may render incomplete Erase and cause poor recording. This accumulation may be removed with carbon tetrachloride and a small cotton swab on the end of a tooth pick.

2. Recording tape not being held in positive contact with the heads.
   (a) Spring (58) not connected or broken. If this spring is loose the pressure arm lever (24) will not be actuated when the control knob is turned to either Play or Record, thereby preventing the pressure pads from bearing against the tape and in turn the pole piece of the heads. Ref. to Figures 2 and 3.

   Replace or connect spring (58).

3. Wrong type of tape,
   (a) Use "A" tape. (Dull side of tape toward head.)
   (b) Red oxide plastic base tape gives the best results.

Plays Back but will not Record -

1. Defective microphone. Check microphone and connection to plug.

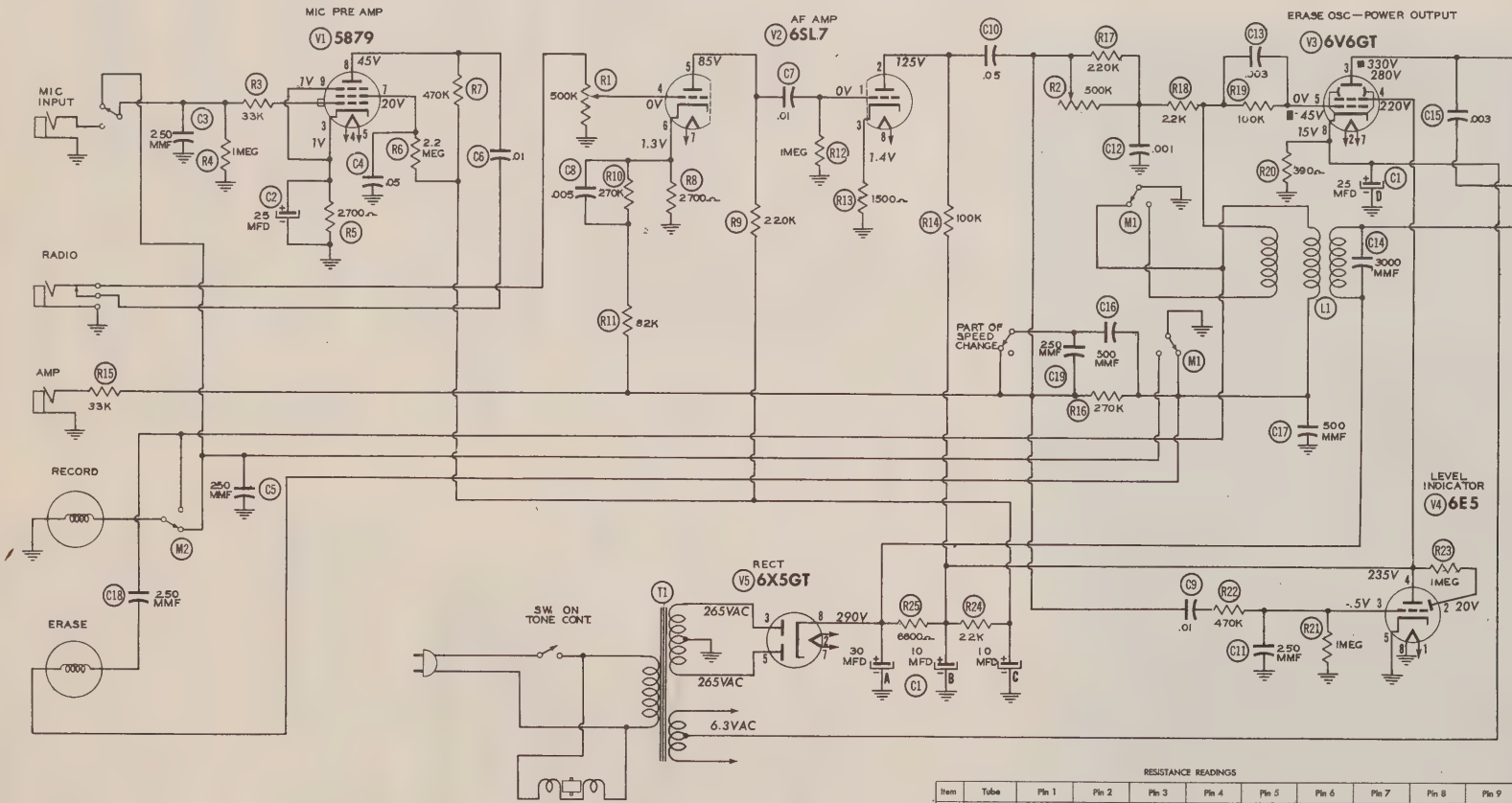
2. Check operation of play-record switch.

Microphonics -

1. Defective 5879 or 6SL7 tube, check 5879 tube socket for freedom of shock mounting.

Excessive Hum -

1. Check 5879 and 6SL7 tubes.



A PHOTOFACT STANDARD NOTATION SCHEMATIC

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RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	5879	33KΩ ♦ 1Meg	0Ω ♦ 1Meg	2.7KΩ	■0Ω	■.2Ω	0Ω	†2.2Meg	†470KΩ	2.7KΩ
V 2	6SL7GT	1Meg	†110KΩ	1.5KΩ	0Ω	†240KΩ	2.7KΩ	■0.	■.2Ω	
V 3	6V6GT	0Ω	■.2Ω	†525Ω	†6.8KΩ	310KΩ ♦240KΩ	210KΩ ♦0Ω	■ 0Ω	390Ω	
V 4	6E5	■ 0Ω	† 1Meg	1Meg	†6.8KΩ	0Ω	■.2Ω			
V 5	6X5GT	†30Ω	■.2Ω	400Ω	Inf.	400Ω	Inf.	■0Ω	110KΩ	

ALL MEASUREMENTS TAKEN IN IDLE AND PLAY POSITION
† MEASURED FROM PIN 8 OF V5
■ MEASURED FROM PIN 7 OF V5
♦ TAKEN IN RECORD POSITION

2. If hum is recorded on tape check connection to microphone or radio.

Speed Variation or "Wow" -

1. Check the motor pulley (70), idler wheel (54), flywheel-capstan (67-67A) and pressure roller (19) for oil and foreign material.
   (a) Clean with alcohol.

CAUTION: Do not use carbon tetrachloride to clean rubber surfaces, as carbon tetrachloride may seriously damage any rubber surface. All metal parts, however, may be cleaned with carbon tetrachloride.

2. Check to see if the pressure roller (19) is making positive contact with the capstan (67A).
   (a) Slide plate (45) may be binding.
   (b) Check spring (48) to see if it is connected.

3. Check the equalizer bar (33) to see if it is properly adjusted, see "Traction" or "Drag" on "Reel Spindle." Also the adjustment as described under "Take Up or Take Up Reel." These two adjustment may be improperly positioned, thereby causing excessive pull on the tape.

Noisy Capstan Bearing -

1. Apply a few drops of light oil to bearing.

Excessive Tape Noise -

1. Heads magnetized. Demagnetize heads with a strong 60 cycle field gradually reducing the field to zero.

MECHANICAL PARTS LIST

Quan.	Part No.	Ref. No.	Description
1	611-60624	1	6-32 X 3/8 F.H.M.S.
1	611-82224	2	8-32 X 1-3/8 F.H.M.S.
1	765-C-14	3	Head Cover Casting
1	765-A-3	4	Record Lock Button
2	611-8084-4	5	8-32 X 1/2 Fil. H. M.S.
1	765-D-14	6	Front Cover Casting
1	711-C-87	7	Top Cover Panel
1	964-A-82	8	Feed Reel Spindle
1	611-1161-5	9	10-32 X 1" R. H.M.S.
1	616-114-4	10	#10 Flat Washer
1	714-A-102	11	Top Guide Sleeve
1	943-A-10	12	Erase Head
1	943-A-11	13	Record Head
1	616-114-4	14	#10 Flat Washer
1	613-1089-6	15	10-32 X 1/2" Socket Cap Screw
1	611-6035-3	16	6-32 X 3/16" B.H.M.S.
1	964-A-80	17	Take Up Reel Spindle
1	964-A-123	18	Speed Control Shaft
1	619-16-10	18A	.078 X 5/8" Roll Pin
1	964-A-116	19	Capstan Pressure Roller
1	616-A-3169	20	1/4 X 1/2 X .010 Clock Steel Washer
1	714-A-47	21	Roller Stud
1	619-14-8	22	1/4" Crescent Retaining Ring
1	964-A-117	23	Record Lock Lever
1	964-A-114	24	Pressure Arm Lever
1	714-A-185	25	Equalizer Spacer
1	742-A-11	26	Pressure Pad Stop
1	964-A-124	27	Felt Pressure Pad and Plate
2	871-A-22	27A	Felt Pressure Pad
2	714-A-182	28	Tie Rod Collar
2	613-80399	29	8-32 X 3/16" Allen Cup Point Set Screw
1	619-14-8	30	1/4" Crescent Retaining Ring
1	619-14-6	31	3/16" Crescent Retaining Ring
1	711-C-86	32	Top Mechanism Plate
1	964-B-19	33	Equalizer Bar and Bearings
1	714-A-135	34	Rewind Pulley
1	899-2	35	Feed Belt 5/16" X 17-1/4"
2	613-80399	36	8-32 X 3/16" Allen Cup Point Set Screw
1	617-113-4	37	#10 X 13/32 Lockwasher, Ext. Tooth
1	714-A-183	38	Equalizer Pivot Stud
1	712-A-22	39	Idler Spring
1	964-A-129	40	Take up Adjusting Lever
1	964-A-121	41	Take up Adjusting Spring
1	853-20	41A	Rubber Boot
1	711-A-209	42	Stop Plate
1	964-A-91	43	Take up Pulley
1	899-3	44	Take up Belt 5/16" X 12-5/8"
1	964-A-23	45	Slide Plate
1	712-A-5	46	Take up Pressure Spring
1	711-A-207	47	Spring Ring
1	712-A-6	48	Pressure Roller Spring
1	711-A-343	49	Idler Channel
2	714-A-180	50	Idler Stud
1	619-14-6	51	3/16" "E" Retaining Ring
1	714-A-181	52	Idler Spacer
1	711-A-362	53	Idler Bracket
1	964-A-115	54	Idler Wheel
1	616-A-8169	55	.190 X 1/2 X .010 Clock Steel Washer
1	711-A-346	56	Idler Spring Clip
1	711-A-330	57	Play Pressure Lever
1	712-A-21	58	Pressure Pad Spring
1	714-A-184	59	Tie Rod
1	714-A-103	60	Wind and Rewind Shaft
2	619-14-6	61	3/16" Crescent Retaining Ring
1	964-A-126	62	Motor Plate
1	711-A-248	63	Rewind Interlock Bracket
1	712-A-8	64	Interlock Spring
1	619-A-8	65	1/4" Crescent Retaining Ring
2	616-A-3169	66	1/4" X 1/2 X .010 Clock Steel Washer
1	964-A-113	67	Flywheel Complete Assembly
1	964-A-40	68	Mechanism Cam Shaft Assembly
1	711-A-243	69	Cam
1	714-A-167	70	Motor Pulley
1	714-A-171	71	Belt Pulley
1	964-B-20	72	Motor Support Plate

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Quan.	Part No.	Ref. No.	Description
1	711-A-361	72A	Support Bracket
2	611-10454	72B	10-32 X 1/4" Bind. H. M. S.
1	532-A-6	73	Equalizer Switch
1	367-B-4	74	Universal Motor
2	714-A-173	74A	Motor Bar Support
1	367-B-6	74B	G. I. Motor
1	367-B-7	74C	Fasco Motor
4	617-112-4	75	#10 Int. Tooth Lock-washer
4	611-10554	76	10-32 X 5/16" B.H.M.S.
3	711-A-341	77	.205 X 7/8" X 1/32" Motor Mounting Washer
3	855-8	78	Shock Mounts
3	711-A-341	79	.205 X 7/8" X 1/32" Motor Mounting Washer
3	617-8114	80	#3 Int. Tooth Lock-washer
3	614-811-4	81	#8-32 Hex Head Nut
1	717-A-19	82	Motor Fan (Universal Motor)
1	717-A20	82A	Motor Fan (G.I. Motor)
1	717-A-21	82B	Motor Fan (Fasco Motor)

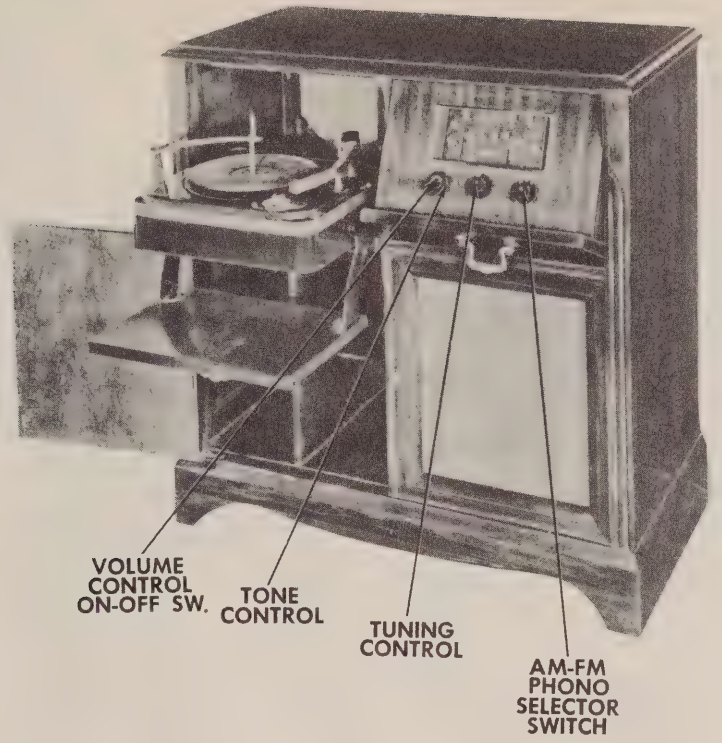
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
V1A	5879	1st AF Amplifier
V1B	6J7	1st AF Amplifier
V2	6SL7	2nd AF Amplifier
V3	6V6GT	Power Output-Recorder Oscillator
V4A	6U5/6G5	Volume Indicator
V4B	1629	Volume Indicator
V4C	6E5	Volume Indicator
V5	6X5GT	Rectifier
C1A	285-5064	Filter,30 mfd @ 350 Volts
C1B		Filter, 10 mfd @ 350 Volts
C1C		Decoupling, 10 mfd @ 350 Volts
C1D		Power Output Cathode, 25 mfd @ 25 Volts
C2	273-2561	1st AF Amp. Cathode, 25 mfd @ 25 Volts
C3	232-2515-2	1st AF Amp. Grid, 250 mmf @ 500 Volts
C4	263-5034	1st AF Amp. Screen, .05 mfd @ 400 Volts
C5	232-2515-2	Fixed Trimmer, 250 mmf @ 500 Volts
C6	263-1034	Audio Coupling, .01 mfd @ 400 Volts
C7	263-5024	2nd AF Amp. Cathode, .005 mfd @ 600 Volts
C8	263-1034	Audio Coupling, .01 mfd @ 400 Volts
C9	263-5034	Audio Coupling, .05 mfd @ 400 Volts
C10	263-1034	Audio Coupling, .01 mfd @ 400 Volts
C11	232-2515-2	Volume Indicator Grid, 250 mmf @ 500 Volts
C12	263-1024	Tone Compensation, .001 mfd @ 600 Volts
C13	263-3024	Power Output Grid, .003 mfd @ 600 Volts
C14	263-3024	Power Output Plate, .003 mfd @ 600 Volts
C15	232-3024	Fixed Trimmer, 3000 mfd @ 500 Volts
C16	232-5015	RF Bypass, 500 mmf @ 500 Volts
C17	232-5015	Tone Compensation, 500 mmf @ 500 Volts
C18	232-2515-2	Oscillator Coupling, 250 mmf @ 500 Volts
C19	232-2515-2	Tone Compensation, 250 mmf @ 500 Volts*
R1	124-A-5043-7	Volume Control, 500K ohm, 1/2 Watt
R2	126-A-50413-4	Tone Control and Switch, 500K ohm, 1/2 Watt
R3	111-10521	1st AF Amp. Grid, 1 Meg. 1/2 Watt
R4	111-33321	1st AF Amp. Grid, 33K ohm, 1/2 Watt
R5	111-27221	1st AF Amp. Cathode, 2700 ohm, 1/2 Watt
R6	111-22521	1st AF Amp. Screen, 2.2 Meg, 1/2 Watt
R7	111-47421	1st AF Amp. Plate Load, 470K ohm, 1/2 Watt
R8	111-27221	2nd AF Amp. Cathode, 2700 ohm, 1/2 Watt
R9	111-22421	2nd AF Amp. Plate Load, 220K ohm, 1/2 Watt
R10	111-27421	Tone Compensation, 270K ohm, 1/2 Watt
R11	111-82321	Tone Compensation, 82K ohm, 1/2 Watt
R12	111-10521	3rd AF Amp. Grid, 1 Meg, 1/2 Watt
R13	111-15221	3rd AF Amp. Cathode, 1500 ohm, 1/2 Watt
R14	111-10421	3rd AF Amp. Plate Load, 100K ohm, 1/2 Watt
R15	111-47421	Volume Indicator Filter, 470K ohm,j1/2 Watt
R16	111-10521	Volume Indicator Grid, 1 Meg. 1/2 Watt
R17	111-10521	Volume Indicator Plate Load, 1 Meg. 1/2 Watt
R18	111-22321	Decoupl ng, 22K ohm, 1/2 Watt
R19	111-33321	Tone Compensation, 33K ohm, 1/2 Watt
R20	111-22421	Tone Compensation, 220K ohm, 1/2 Watt
R21	111-27421	Tone Compensation, 270K ohm, 1/2 Watt
R22	111-22321	Oscillator Grid, 22K ohm, 1/2 Watt
R23	111-10421	Output Grid, 100K ohm, 1/2 Watt
R24	111-39131	Output Cathode, 390 ohm, 1 Watt
R25	111-68231	Filter 6800 ohm, 1 Watt
T1	352-A-17	Power Transformer
T2	342-A-12	Output Transformer
SP1	345-B-13	PM Speaker (3.2 ohm Voice Coil)
L1	311-A-13	Bias Oscillator Coil
M1	534-A-3	Play-Record Slide Switch

* Not used in all models

SILVERTONE MODELS 69 (Ch. 100.201), 1066 (Ch. 100.202)

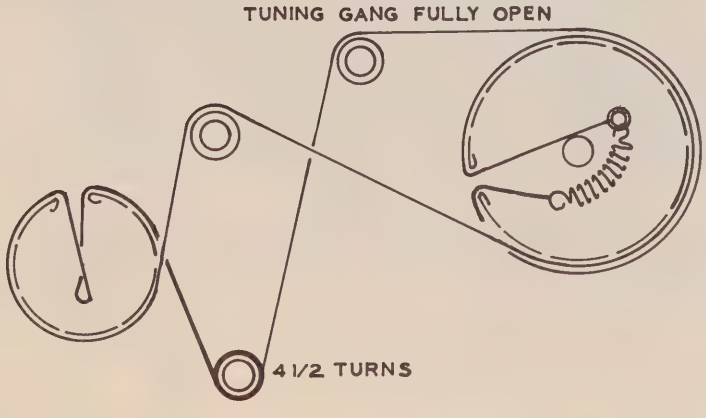
SILVERTONE MODELS 69 (Ch. 100.201), 1066 (Ch. 100.202)



SILVERTONE MODELS 69 (Ch. 100.201), 1066 (Ch. 100.202)

TRADE NAME	Silvertone Models 69 (Ch. 100.201), 1066 (Ch. 100.202)
SUPPLIER	Sears Roebuck & Co., 925 S. Homan, Chicago, Ill.
TYPE SET	AC Operated Combination Phono-Radio, AM-FM Superheterodyne Receiver with Loop Antenna
TUBES (EIGHT)	Types 6AG5 RF Amp., 12AT7 Converter, 6BA6 1st IF Amp., 6BA6 2nd FM IF Amp., 6AL5 Ratio Det., 6SQ7 Det.-AVC-AF, 6V6GT Power Output, 5Y3GT Rectifier
POWER SUPPLY	110-120 Volts AC — RATING .7 Amp. @ 117 Volts AC
TUNING RANGE - BROADCAST	530-1750KC — FREQ. MOD. 88-108MC

FOR SERVICE INFORMATION ON RECORD CHANGER SEE V-M MODEL 950 IN PHOTOFACT FOLDER 13 OR RECORD CHANGER MANUAL CM-3.



DIAL CORD DRIVE

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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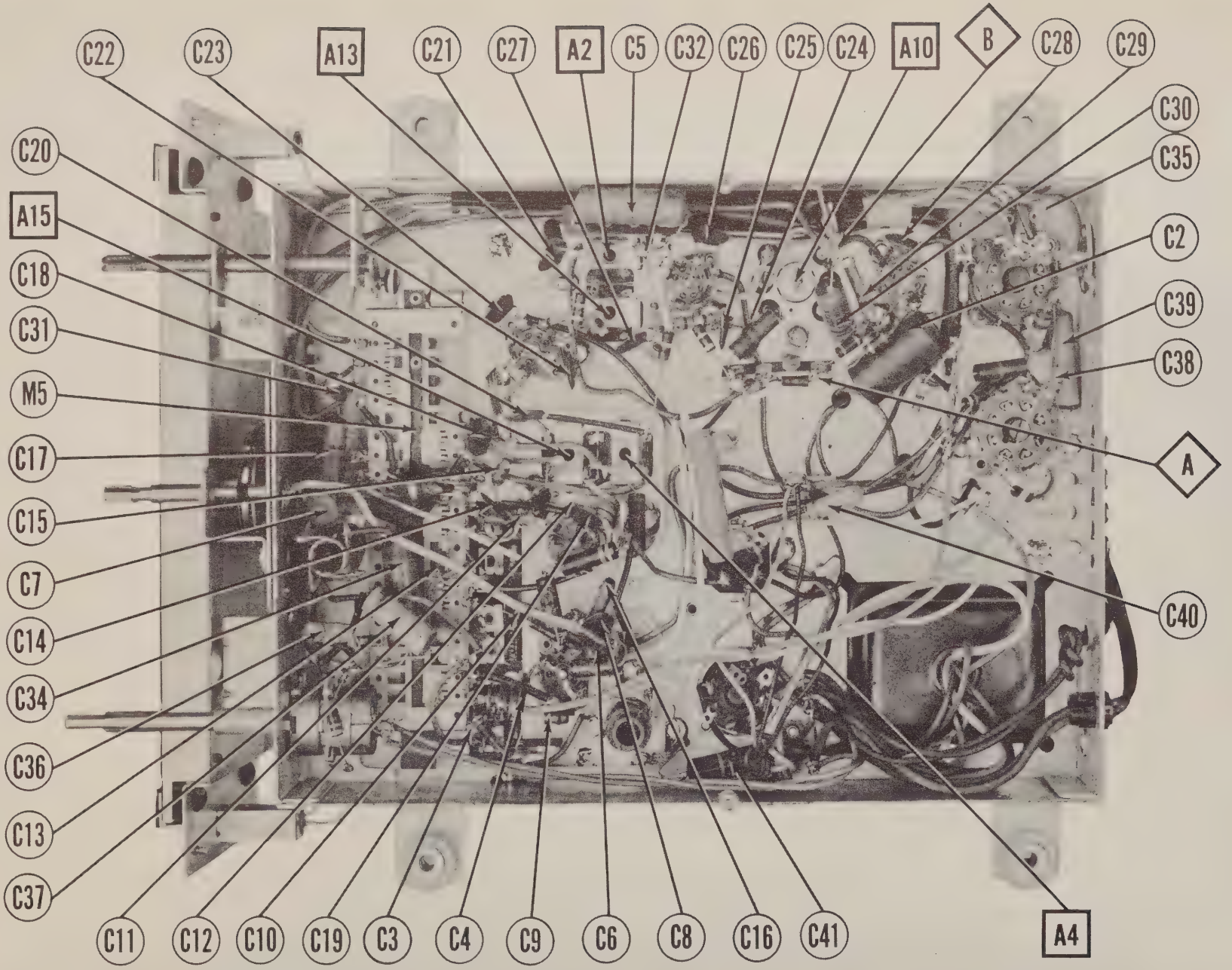
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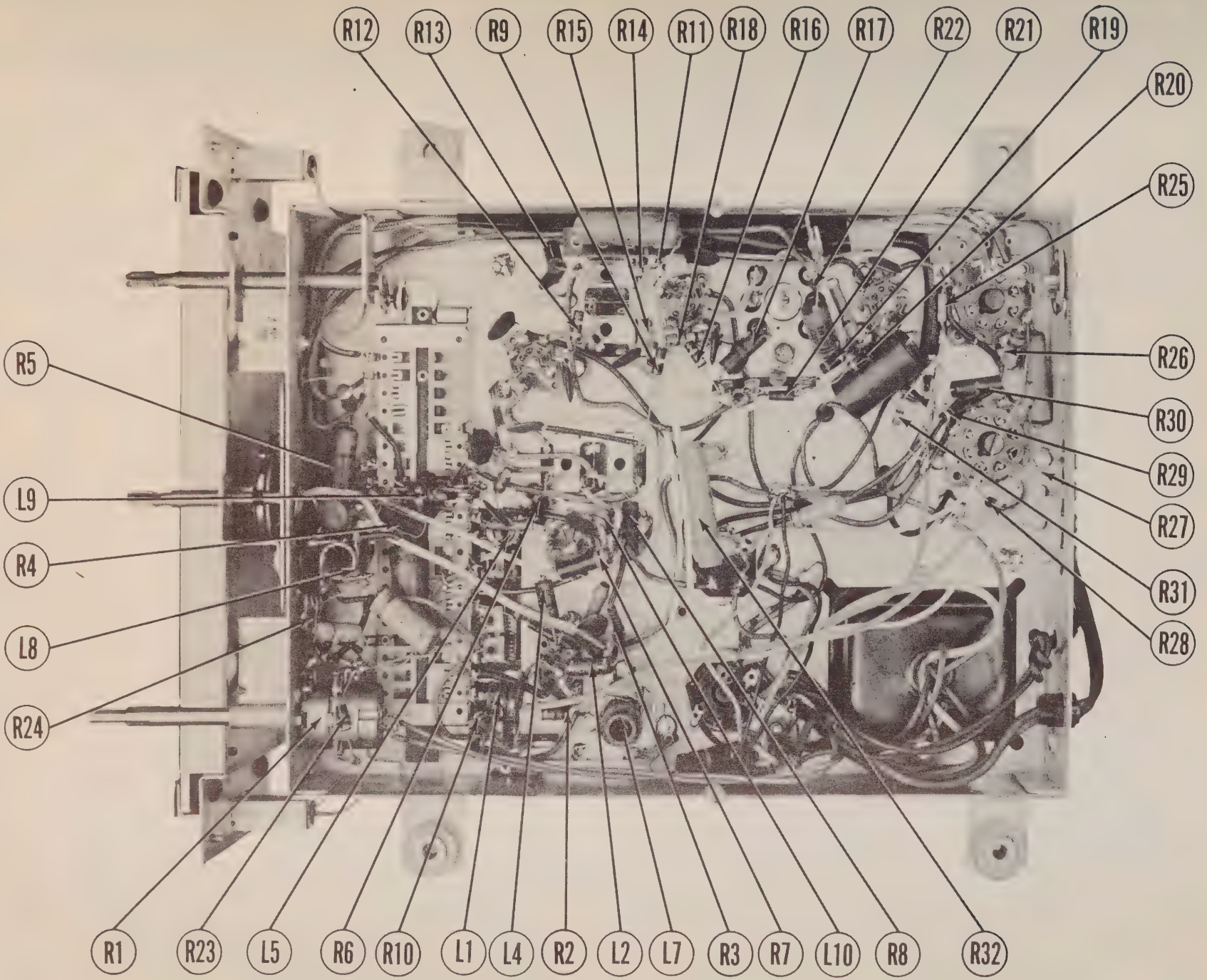
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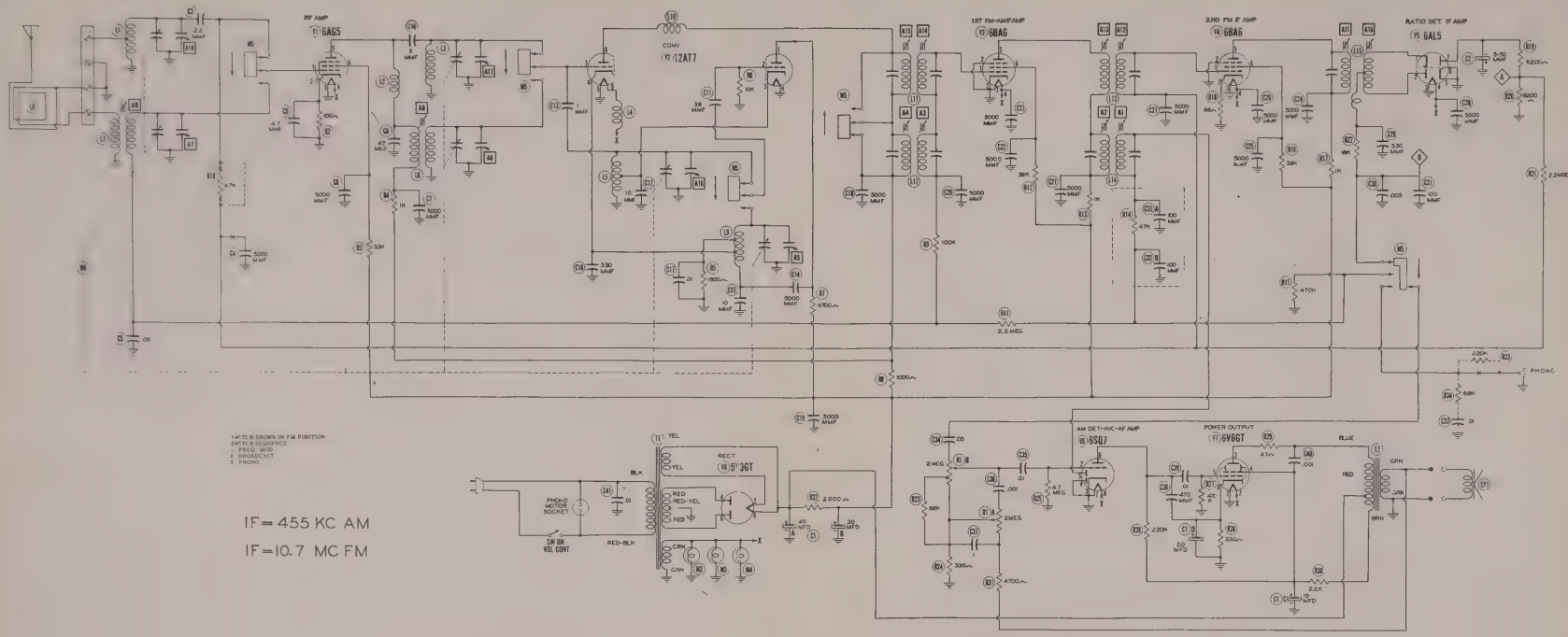

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	105V	2VDC	0V	0 .3VAC	230VDC	150VDC	1.2VDC		
V 2	12AT7	175VDC	6.3VDC	0V	0V	2.6VDC	0V	5.8VDC	6.3VAC	
V 3	6BA6	235VDC	0V	0V	0 .3VAC	240VDC	75VDC	0V		
V 4	6BA6	235VDC	0V	0V	0 .3VAC	240VDC	165VDC .115VDC	1.8VDC 6VDC		
V 5	6AL5	0 .2VDC	0 .3VDC	0V	6.3VAC	0V	0V	0 .5VDC		
V 6	6SQ7GT	0V	0 .5VDC	0V	0V	0 .5VDC	180VDC	0V	6.3VAC	
V 7	6V6GT	0V	6.3VAC	385VDC	385VDC	0V	0V	0V	19VDC	
V 8	5Y3GT	0V	350VDC	0V	350VAC	0V	350VAC	0V	350VDC	

‡ TAKEN WITH VACUUM TUBE VOLTMETER † TAKEN IN FM POSITION

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	17.5Meg	100Ω	0Ω	0Ω	14.5KΩ	133KΩ	100Ω		
V 2	12AT7	10.8KΩ	108Ω	0Ω	0Ω	0Ω	19KΩ	3.8Ω	1.85Ω	0Ω
V 3	6BA6	2.5Meg	0Ω	0Ω	0Ω	135Ω	540KΩ	0Ω		
V 4	6BA6	2.2Meg	0Ω	0Ω	0Ω	135Ω	540KΩ	70Ω		
V 5	6AL5	Inf.	Inf.	0Ω	0Ω	0Ω	Inf.	15KΩ		
V 6	6SQ7GT	0Ω	4.7Meg	0Ω	0Ω	105KΩ	132KΩ	0Ω	0Ω	
V 7	6V6GT	0Ω	150	16000	135KΩ	470Ω	Inf.	0Ω	330Ω	
V 8	5Y3GT	Inf.	53KΩ	Inf.	16KΩ	Inf.	105Ω	Inf.	53KΩ	

† MEASURED FROM PIN 2 OF V8

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	RF Amplifier	6AG5	6AG5	7BD	
V2	Converter	12AT7	12AT7	9A	
V3	1st FM-AM IF Amp.	6BA6	6BA6	7BK	
V4	2nd FM IF Amp.	6BA6	6BA6	7BK	
V5	Ratio Detector-AVC	6AL5	6AL5	6BT	
V6	AM Det. -AVC-AF	6SQ7	6SQ7	8Q	
V7	Power Output	6V6GT	6V6GT	7AC	
V8	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SILVERTONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	450	505908	AFH4-32		UP43145C		TVL-4734	▫ Filter
B	30	450							■ Filter
C	10	450							▲ Decoupling
D	20	25							Output Cathode
C2	5	50	504937	PRS150/4		BR550		TVA-1303	Stabilizing Cap.
C3	22		513406		TCZ-22		NP0K-220	5TCC-Q22	FM RF Coupling
C4	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	RF Amp. Grid †
C5	.05	200	512027	P288-05	DF-503	PTE4S5		2TM-S5	AVC Filter
C6	47		513002	SI47	D6-470	5R5Q5	GP1K-470	5GA-Q47	Fixed Trimmer
C7	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	RF Amp. Plate Dec.
C8	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	RF Amp. Screen
C9	47		513002	SI47	D6-470	5R5Q5	GP1K-470	5GA-Q47	RF Amp. Cathode
C10	5		513401	SI5N750			N750K-050		RF Coupling
C11	39		513409		TCZ-39		NP0L-390		Osc. Grid Cap.
C12	10		513429	SI10NP0	TCZ-10		NP0K-100	5TCC-Q1	Fixed Trimmer
C13	1		513000	1468-000001	TCZ-1		NP0K-010		FM Osc. Coupling
C14	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AM Osc. Feedback
C15	10		513442	SI10N750	TCN-10		N750K-100	5TCU-Q1	Voltage Divider
C16	330		513007	SI330	D6-331	5R5T3	GP2K-331	5GA-T33	Mixer Cathode
C17	.01	200	512009	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Mixer Cathode
C18	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Mixer Plate Dec.
C19	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Decoupling
C20	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	AVC Filter
C21	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st IF Amp. Plate
C22	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st IF Amp. Screen
C23	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st IF Amp. Filter
C24	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd FM IF Amp. Plate
C25	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd FM IF Amp. Screen
C26	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd FM IF Amp. Filter
C27	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd FM IF Amp. Grid
C28	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Ratio Det. Filter
C29	330		513007	SI330	D6-331	5R5T3	GP2K-331	5GA-T33	RF Bypass
C30	.003	600	512005	P688-003	D6-302	PTE6D3	GP2-333-302	6TM-D3	De-emphasis
C31	100		513003	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	De-emphasis
C32A	100		506338 ♦	SI100	PC-50 ♦	5W5T1	GP1K-101	100C1 ♦	Diode RF Filter
B	100			SI100		5W5T1	GP1K-101		Diode RF Filter
C33	.01	400	512011	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Tone Comp. †
C34	.05	200	512027	P288-05	DF-503	PTE4S5		2TM-S5	Audio Coupling
C35	.01	200	512009	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
C36	.001	600	512001	P688-001	D6-102	PTE6D1	GP2L-102	6TM-D1	Tone Comp.
C37	.1	200	512033	P288-1	DF-104	PTE4P1		2TM-P1	Tone Comp.
C38	470		513008	SI470	D6-471	5W5T5	GP2K-471	5GA-T47	AF Amp. Plate
C39	.01	200	512009	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
C40	.001	600	512001	P688-001	D6-102	PTE6D1	GP2L-102	6TM-D1	Output Plate
C41	.01	600	512256	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Line Filter

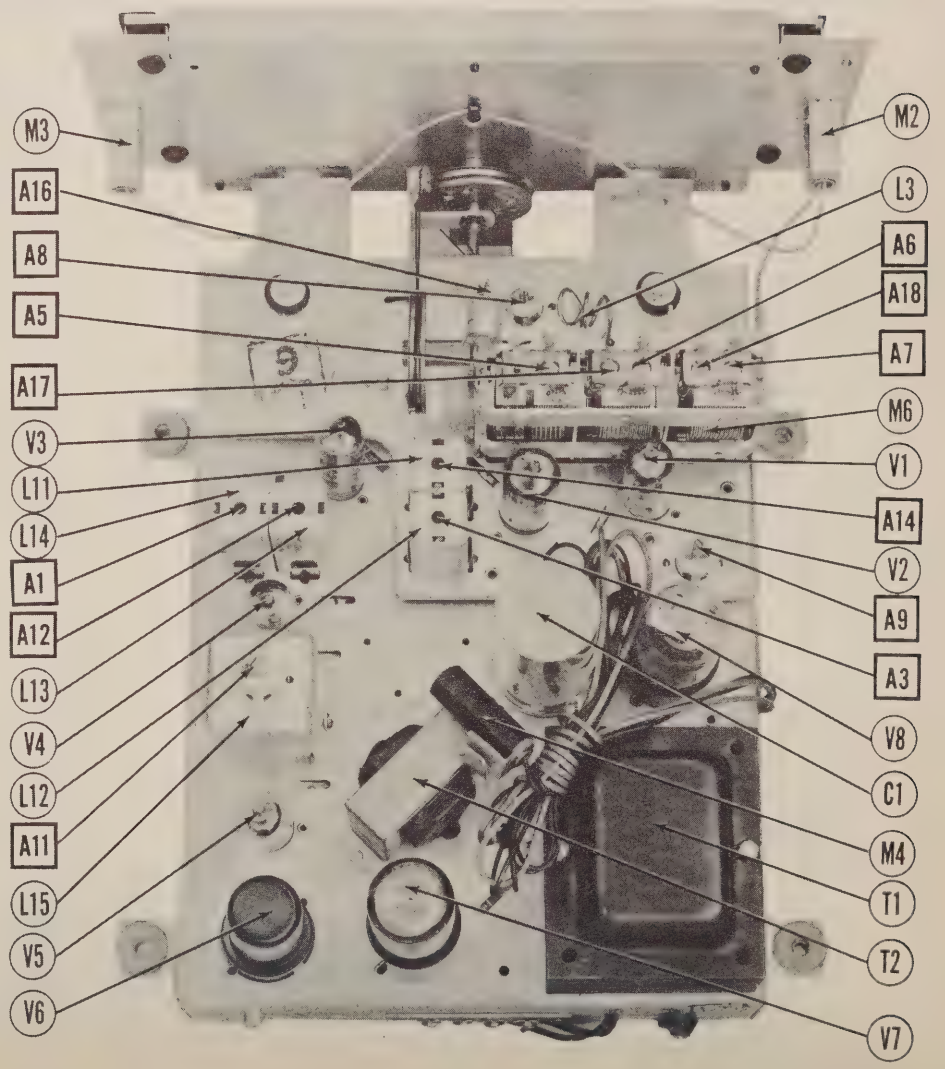
† Not used in all models.
♦ Items C32A, C32B, R14 are combined in one unit.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	2Meg		508483	Concentrikit B11-139 †			Tone Control - Front
B	2Meg			B13-139X †			Volume Control - Tapped ⓐ 500KΩ - Rear
C	Shaft End			E-202 †			Attach per instructions in Concentrikit
D	Switch			76-1 †			Attach per instructions in Concentrikit

† Additional parts to be used with Concentrikit

CHASSIS—TOP VIEW



SET 162 FOLDER 10

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SILVERTONE PART No.	IRC PART No.	
R2	100Ω	½	510117	BTS-100	RF Amp. Cathode - See note 1.
R3	33KΩ	½	510164	BTS-33K	RF Amp. Screen
R4	1000Ω	1	510237	BTA-1000	RF Amp. Plate Decoupling
R5	1800Ω	½	510141	BTS-1800	Mixer Cathode
R6	10KΩ	½	510155	BTS-10K	Osc. Grid
R7	4700Ω	1	510249	BTA-4700	Osc. Plate
R8	1000Ω	1	510237	BTA-1000	Decoupling
R9	100KΩ	½	510173	BTS-100K	AVC Network
R10	47KΩ	½	510167	BTS-47K	AVC Network
R11	2.2Meg	½	510193	BTS-2.2Meg	AVC Network
R12	39KΩ	½	510165	BTS-39K	1st IF Amp. Screen
R13	1000Ω	1	510237	BTA-1000	1st IF Amp. Plate Decoupling
R14	47KΩ	½	506338 ♦	BTS-47K	Diode Filter
R15	470KΩ	½	510185	BTS-470K	Diode Load
R16	39KΩ	½	510165	BTS-39K	2nd FM IF Amp. Screen
R17	1000Ω	1	510237	BTA-1000	2nd FM IF Plate Decoupling
R18	68Ω	½	510115		2nd FM IF Amp. Cathode
R19	8200Ω	½	510153	BTS-8200	Ratio Det. Diode Load
R20	8200Ω	½	510153	BTS-8200	Ratio Det. Diode Load
R21	2.2Meg	½	510193	BTS-2.2Meg	AVC Network
R22	18KΩ	½	510159	BTS-18K	De-emphasis
R23	68KΩ	½	510170	BTS-68K	Tone Compensation
R24	330Ω	½	510128	BTS-330	Feedback Network
R25	4.7Meg	½	510195	BTS-4.7Meg	AF Amp. Grid
R26	220KΩ	½	510179	BTS-220K	AF Amp. Plate
R27	470KΩ	½	510185	BTS-470K	Output Grid
R28	330Ω	½	510128	BTS-330	Output Cathode
R29	47Ω	½	510113		Parasitic Suppressor
R30	22KΩ	1	510261	BTA-22K	Decoupling
R31	4700Ω	½	510149	BTS-4700	Feedback Network
R32	2000Ω	10	510732	1 3/4A-2000	Filter - Wire Wound
R33	220KΩ	½	510179	BTS-220K	Tone Compensation
R34	68KΩ	½	510170	BTS-68K	Tone Compensation

♦ Items R14, C32A, and C32B are combined in one unit.
Note 1. Some models use 82Ω resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SILVERTONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC ⓐ .7A	680VCT .094ADC	5VAC	6.3VAC ⓐ 2.7A	506709		P-2952	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SILVERTONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T2	7.3KΩ CT	3.7Ω	670Ω CT	.7Ω	508486		A-2936	RO-307 ①	① Drill new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	SILVERTONE PART No.	VIKING PART No.	QUAM PART No.	
SP1	P.M.	3.7Ω	505512	12J12	12A4A	
	CONE DIA.	V. C. DIA.				
SP2	12"	1"				

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA			NOTES
		PRI.	SEC.	SILVERTONE PART No.	MERIT PART No.	IRC PART No.	
L1	FM Ant. Coil	0Ω		506353			
L2	RF Choke	3Ω		507935		CLA	3.3Microhenries
L3	FM RF Coil	0Ω		506351			
L4	Filter Choke	.8Ω		507586		CLA	1 Microhenry
L5	FM Osc.	0Ω		506352			
L6	AM Loop Ant.	.3Ω	.1Ω				
L7	AM Ant. Coil	.4Ω	3Ω	506354			
L8	AM RF Coil	80Ω	4.8Ω	506345			
L9	AM Osc.	9Ω		506335			Taps① 6.5Ω,② 7Ω
L10	Parasitic Supp.	0Ω					
L11	1st FM IF	.5Ω	.5Ω	506080			
L12	1st AM IF	10Ω	10Ω	506333			
L13	2nd FM IF	1.5	.5Ω	505905			
L14	2nd AM IF	13Ω	13Ω	505795			
L15	Disc Trans	1Ω	.1Ω	506332			Tap .2Ω

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA							REMARKS
	SILVERTONE PART No.	ASTATIC PART No.		SHURE PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1	K3797	GC-AG-J	G-AG	WC36B	A56U	43	0-2 or S-2	

ASTATIC, SHURE, AND ELECTRO-VOICE NEEDLE LISTINGS SHOWN ABOVE ARE SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGES LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA			REMARKS
	SILVERTONE PART No.	WALCO PART No.	JENSEN PART No.	
M7	K3798	W-3AGS or W-3AGA	S-642 or S-652	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					SILVERTONE PART No.		
M2	Bayonet	6-8	.15	Brown	118921		Type #47
M3	Bayonet	6-8	.15	Brown	118921		Type #47
M4	Bayonet	6-8	.15	Brown	118921		Type #47

MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
M5	Switch	506347	FM-AM-Phono
M6	2 Gang Var. Cap.	506348	
A16	Trimmer	506336	FM Osc. Adj.
	Cabinet	520145	Model 1066
	Cabinet	508880	Model 69
	Dial Pointer	506370	
	Knob	509046	Pho-AM-FM
	Knob	509044	Tone
	Knob	509045	Tuning
	Knob	509043	Volume - On

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap fully closed and set pointer to last reference mark at low frequency end of dial.

AM ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to stator on center "AM" section of tuning gang gang. Low side to chassis.	455KC (400∿Mod.)	AM (Center)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.		Loop	1500KC	"	1500KC	"	A5, A6, A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		Loop	600KC	"	600KC	"	A8, A9,	Adjust for maximum output. Repeat steps 2 and 3 until no further improvement can be made.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4.	.01MFD	High side to pin 1 (grid) of 6BA6, (V3). Low side to chassis.	10.7MC (Unmod.)	FM (CCW)	Tuning gang fully open.	DC Probe to point (A) Common to chassis.	A10, A11 A12, A13	Adjust for maximum deflection. Notice that A10 has a very broad peak.
5.	"	High side to stator on center "FM" section of tuning gang. Low side to chassis.	"	"	"	"	A14, A15	Adjust for maximum deflection.
6.	"	"	"	"	"	DC Probe to point (B) Common to point (A)	A10	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
4.	.01MFD	High side top in 1 (grid) of 6BA6, (V3). Low side to chassis.	10.7MC (450KC Sweep)	FM	Point of non-interference	Vert. Amp. to point (A) Low side to chassis.	A11, A12, A13	Disconnect Stabilizer capacitor C2. Adjust for maximum amplitude and symmetry as Fig. 1.
5.	"	High side to stator on center "FM" section of tuning gang. Low side to chassis.	"	"	"	"	A14, A15	"
6.	"	"	"	"	"	Vert. Amp. to point (B) Low side to chassis.	A10	Reconnect capacitor C2. Adjust A10 so 10.7MC occurs at center of crossover lines as per Fig. 2. Slightly retouch A11 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7.	300Ω Carbon resistor	High side thru 300Ω to ungrounded "FM" ant. terminal. Low side to chassis.	108MC (Unmod.)	FM	108MC	DC Probe to point (A) Common to chassis.	A16	Adjust for maximum deflection.
8.	"	"	106MC	"	106 MC	"	A17, A18	"
9.	"	"	90MC	"	90MC	"	L5, L3, L1	Check coils with a tuning wand. If necessary expand or compress coil turns for maximum deflection. If coils are changed, repeat steps 8 and 9.

FIG. 1

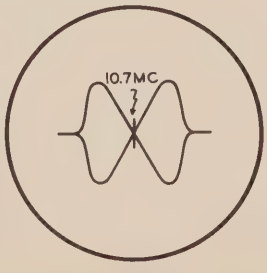
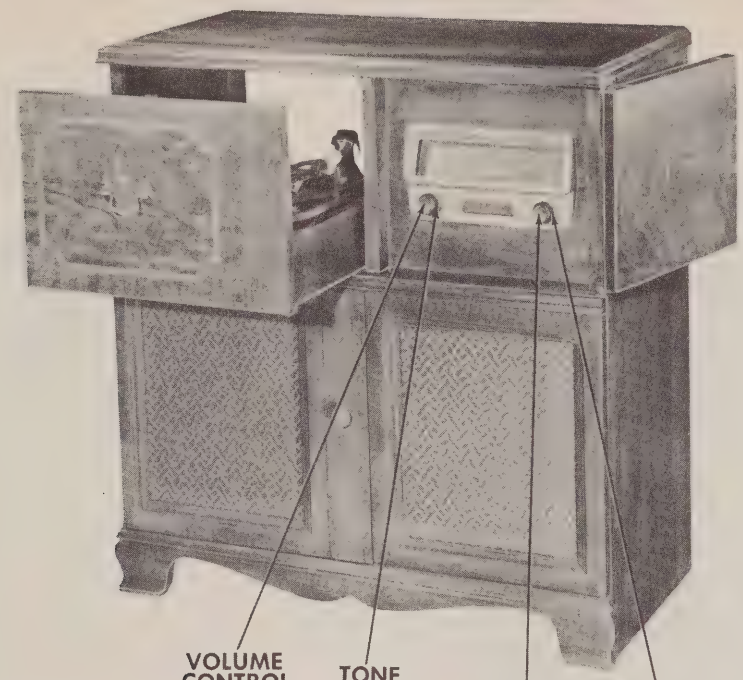


FIG. 2

SILVERTONE MODELS 1058, 1059, 1062, 1063 (Ch. 101.860)

SILVERTONE MODELS 1058, 1059, 1062, 1063 (Ch. 101.860)

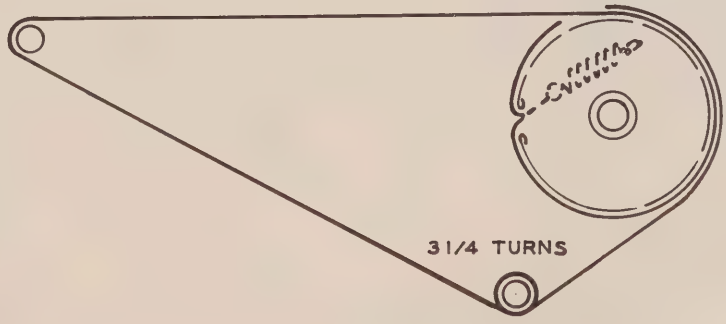


SILVERTONE MODELS 1058, 1059, 1062, 1063 (Ch. 101.860)

TRADE NAME	Silvertone Models 1058, 1059, 1062, 1063 (Ch. 101.860)
SUPPLIER	Sears Roebuck & Co., 925 S. Homan, Chicago, Ill.
TYPE SET	AC Operated AM-FM-Phono Combination Superheterodyne Receiver
TUBES (EIGHT)	Types 6AU6 FM RF Amp., 6BE6 FM-AM Conv., 6BA6 1st IF Amp., 6AU6 2nd FM IF Amp. 6AL5 Ratio Det., 6AT6 Det.-AVC-AF Amp., 6W6GT Audio Output, 7Z4 Rectifier.
POWER SUPPLY	110-120 Volts AC — RATING .6 Amp. @ 117 Volts AC
TUNING RANGE - BROADCAST	540-1600KC — FREQ. MOD. 88-108MC

FOR SERVICE INFORMATION ON RECORD CHANGER UNIT 488.216 SEE VM MODEL 950 PHOTOFACT SET 107 FOLDER 13 - OR RECORD CHANGER MANUAL CM-3.

TUNING GANG FULLY CLOSED



DIAL CORD DRIVE

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST
DENVER, COLORADO

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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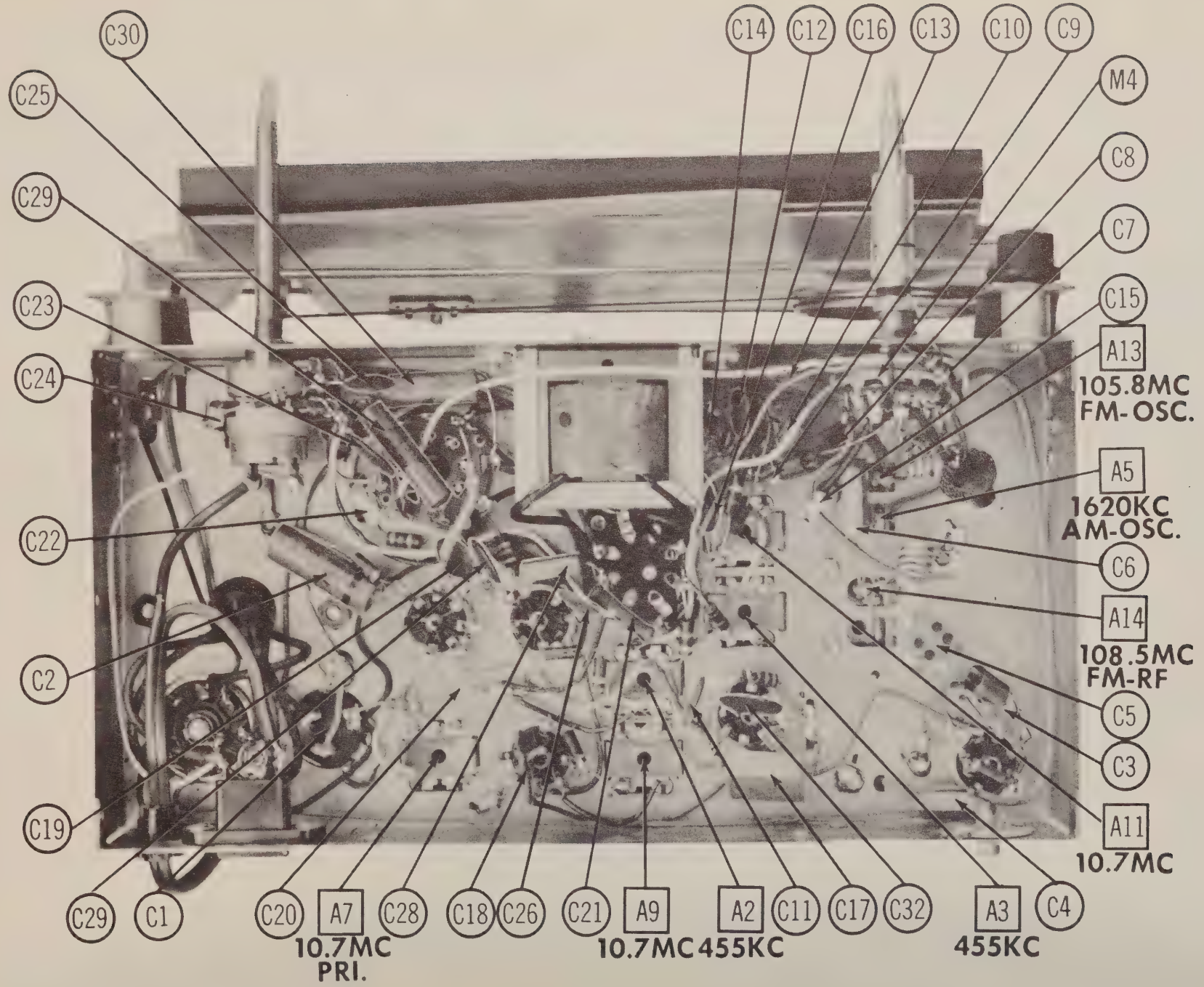
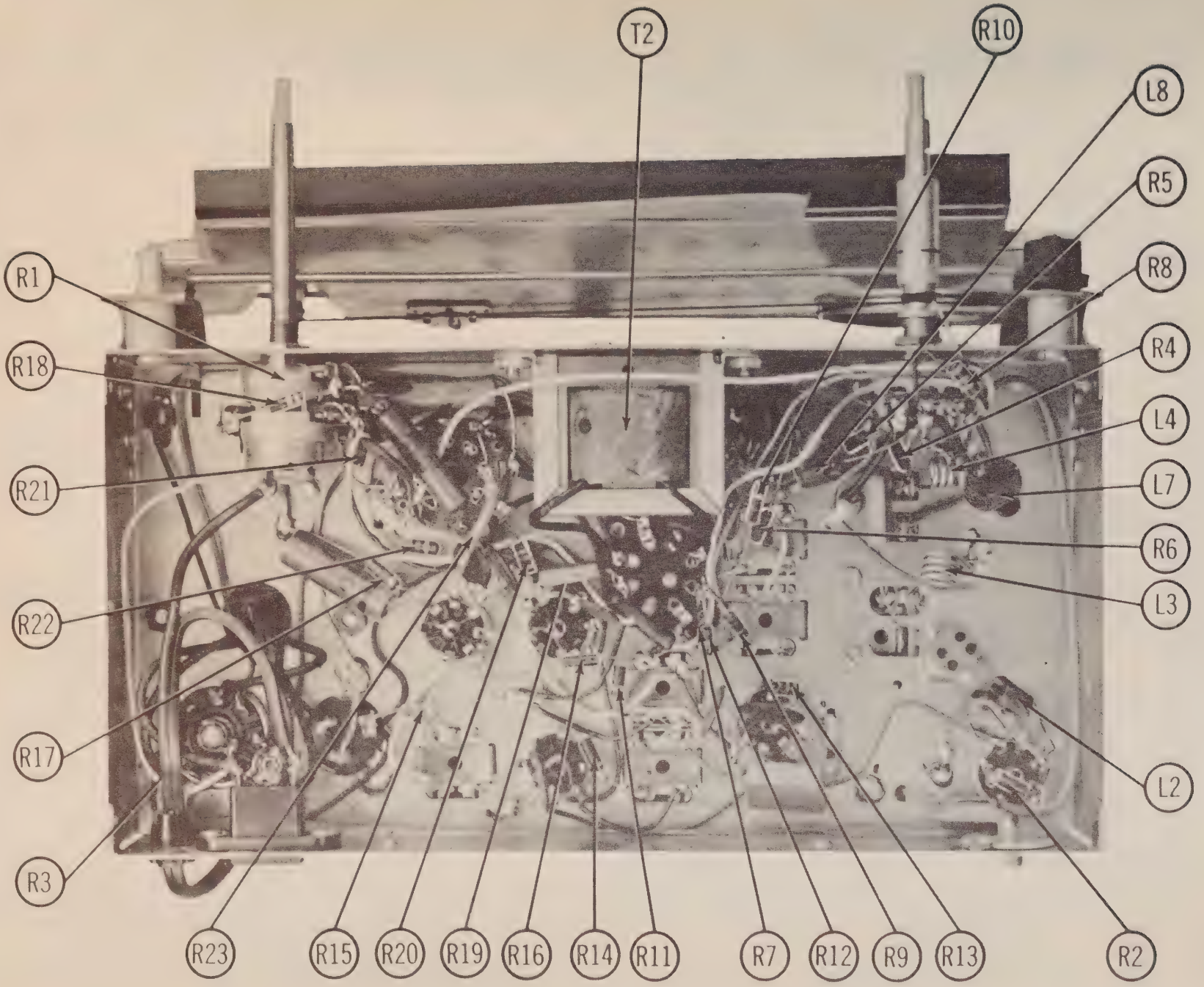
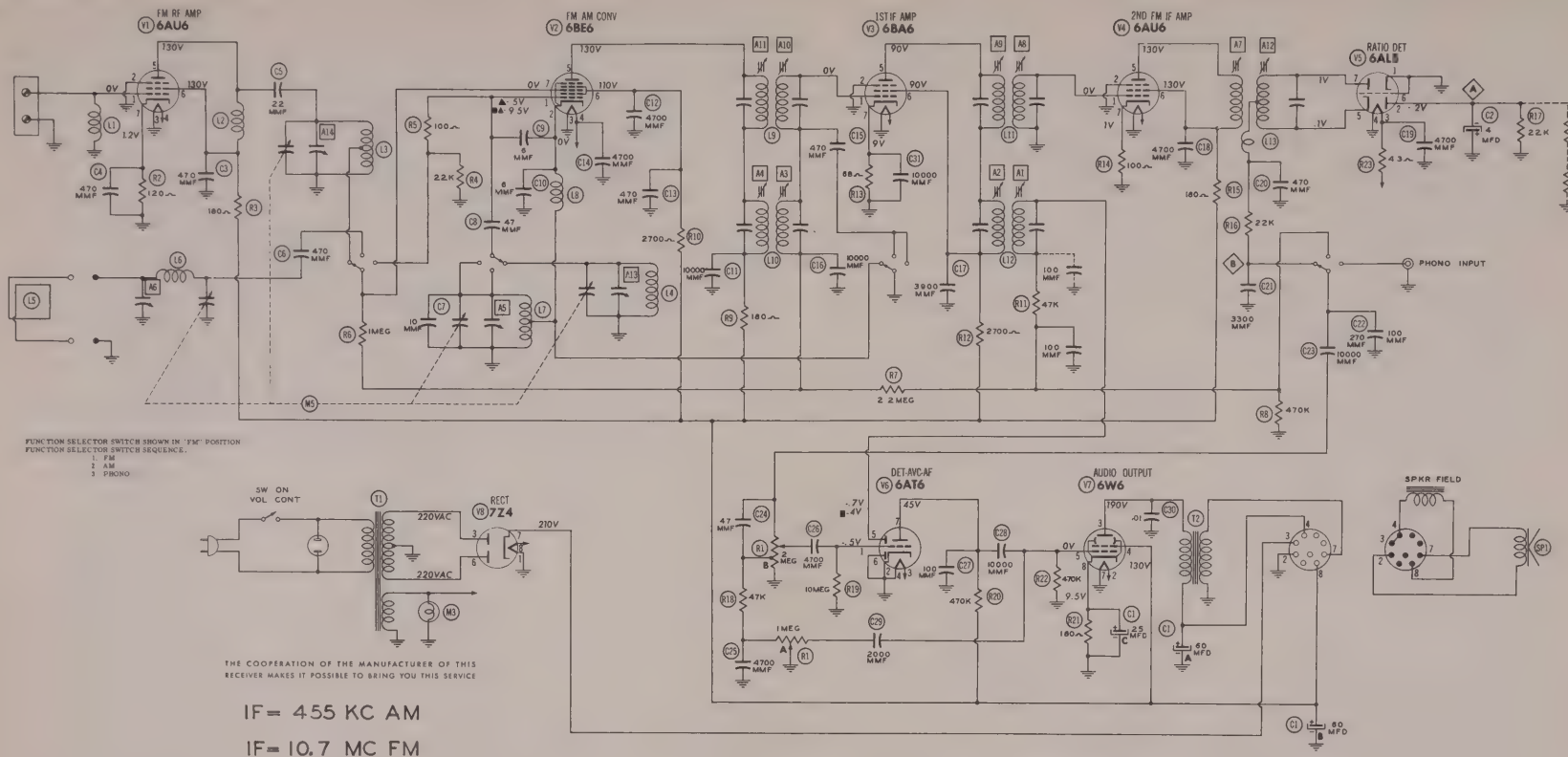

C30
C25
C29
C23
C24
C22
C2
C19
C29
C1
C20
A7
10.7MC
PRI.
C28
C18
C26
C21
A9
10.7MC
A2
455KC
C11
C17
C32
A3
455KC
C4
C14
C12
C16
C13
C10
C9
M4
C8
C7
C15
A13
105.8MC
FM-OSC.
A5
1620KC
AM-OSC.
C6
A14
108.5MC
FM-RF
C5
C3
A11
10.7MC


T2
R10
L8
R5
R8
R4
L4
L7
R6
L3
L2
R2
R13
R9
R12
R7
R11
R14
R16
R19
R20
R15
R23
R3
R17
R22
R21
R18
R1



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

IF= 455 KC AM

IF= 10.7 MC FM

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6AU6	0Ω	0Ω	0Ω	.1Ω	†1.8KΩ	†1.8KΩ	120Ω	
V 2	6BE6	■22KΩ	0Ω	0Ω	.1Ω	†1.8KΩ	†4.3KΩ	■3.7Meg	
V 3	6BA6	800KΩ ■2.7Meg	0Ω	0Ω	.1Ω	†4.3KΩ	†4.3KΩ	68Ω	
V 4	6AU6	.2Ω	0Ω	.1Ω	0Ω	†1.8KΩ	†1.8KΩ	100Ω	
V 5	6AL5	0Ω	22KΩ	2.3Ω	0Ω	Inf.	Inf.	Inf.	
V 6	6AT6	10Meg	0Ω	.1Ω	0Ω	515KΩ	0Ω	†470KΩ	
V 7	6W6GT	Inf.	.1Ω	†285Ω	†1.6KΩ	470KΩ	■470KΩ	0Ω	180Ω
V 8	7Z4	0Ω	†1.8KΩ	70Ω	†1.6KΩ	Inf.	72Ω	100KΩ	.1Ω

ALL MEASUREMENTS TAKEN IN FM POSITION UNLESS NOTED
† MEASURED FROM PIN 7 OF V8
■ MEASURED IN AM POSITION
♦ TAKEN WITH VACUUM TUBE VOLTMETER

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	FM RF Amplifier	6AU6	6AU6	7BK	
V2	FM-AM Converter	6BE6	6BE6	7CH	
V3	1st. IF Amp.	6BA6	6BA6	7BK	
V4	2nd. FM IF Amp.	6AU6	6AU6	7BK	
V5	Ratio Det.	6AL5	6AL5	6BT	
V6	Det-AVC-AF Amp.	6AT6	6AT6	7BT	
V7	Audio Output	6W6GT	6W6GT	7AC	
V8	Rectifier	7Z4	7Z4	5AB	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

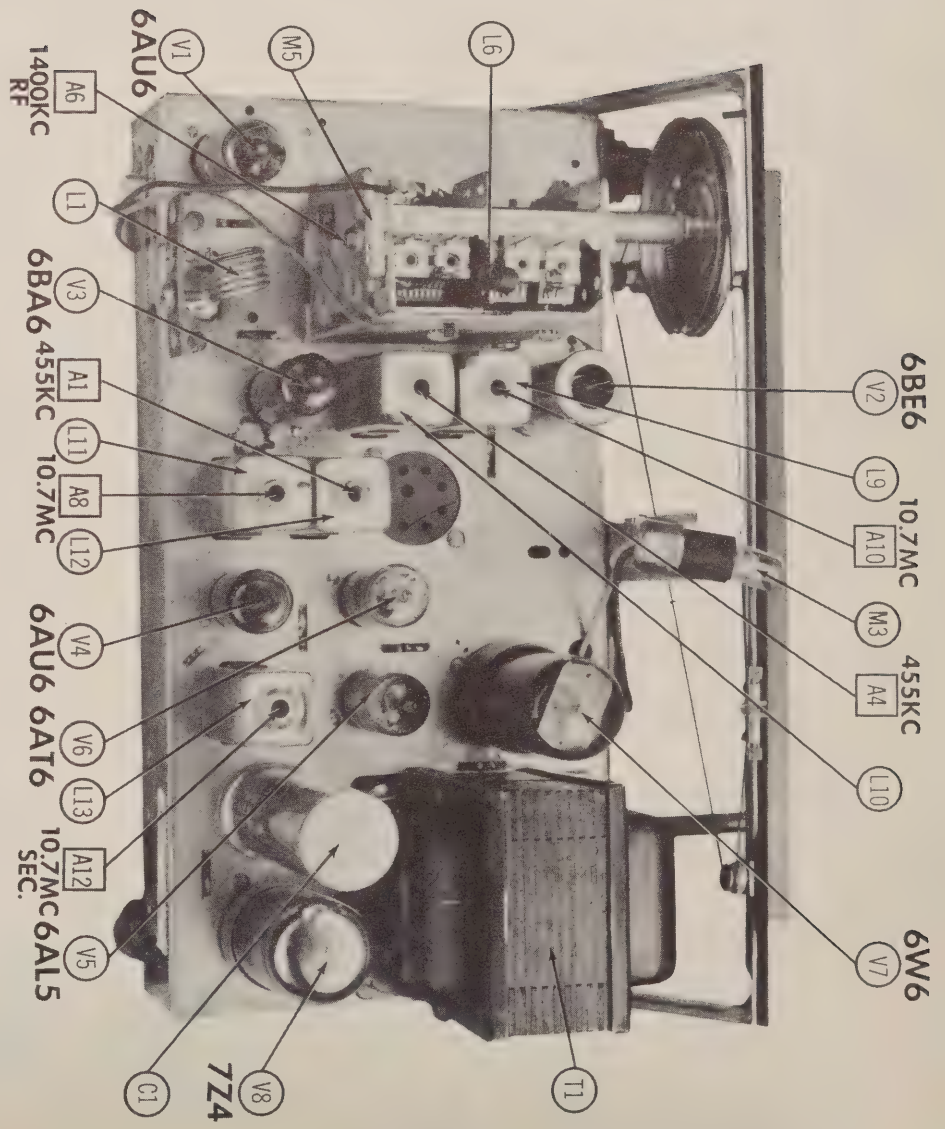
ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SILVERTONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	60	250	R41-74576-1	AFH3-90		UPT7725V2		R1191	■ Filter
B	60	250							▲ Filter
C	25	25							Audio Output Cathode
C2	4	50	R41-69193-1	PRS150/4		BR550		TVA-1303	Stabilizing Cap.
C3	470	500	R44-454712-20	1468-0005	D6-471	5W5T5	GP2K-471	1FM-35	FM RF Amp. Dec.
C4	470	500	R44-454712-20	1468-0005	D6-471	5W5T5	GP2K-471	1FM-35	FM RF Amp. Cathode
C5	22	500	R44-452202-20	1468-000025	D6-220	5W5Q25	GP1K-220	MS-425	FM RF Coupling
C6	470	500	R44-454712-20	1468-0005	D6-471	5W5T5	GP2K-471	1FM-35	AM RF Coupling
C7	10		R43-74592-3	SI10NP0	TCZ-10		NP0K-100	5TCC-Q1	Fixed Padder
C8	47	500	R44-454701-20	1469-00005		5R5Q5		MS-45	Osc. Grid Cap.
C9	6		R43-74592-2				NP0K-060		FM Osc. Feedback
C10	6		R43-74592-2				NP0K-060		Fixed Trimmer
C11	10000		R43-701036-63	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Conv. Plate Dec.
C12	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D47	Osc. Anode Bypass
C13	470	500	R44-454712-20	1468-0005	D6-471	5W5T5	GP2K-471	1FM-35	Osc. Anode Bypass
C14	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D47	Conv. Fil.
C15	470		R43-604710-20	SI470	D6-471	5W5T5	GP2K-471	5GA-T47	AVC Filter
C16	10000		R43-701036-63	BPD-01	DD-103	1D3S1	821-01	5HK-S1	AVC Filter
C17	3900	500	R44-353921-30	1467-004	D6-402	1D5D4	GP2-333-402	1FM-24	1st. IF Amp. Dec.
C18	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D47	2nd. FM IF Amp. Dec.
C19	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D47	Ratio Det. Fil.
C20	470		R43-604710-20	SI470	D6-471	5W5T5	GP2K-471	5GA-Q47	Diode Load Cap.
C21	3300		R43-603329-33	SI3300	D6-332		GP2-333-332	5HK-D33	De-emphasis
C22	270		R43-602710-20	SI270	D6-271	5W5T3	GP2K-271	5GA-T27	RF Bypass
C23	10000		R43-701036-63	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Audio Coupling
C24	47	500	R44-454701-20	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	Tone Comp.
C25	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D4	Tone Comp.
C26	4700		R43-704726-62	BPD-005	DD-502	1D5D5	811-005	5HK-D4	Tone Comp.
C27	100	500	R44-351012-20	1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	AF Amp. Plate
C28	10000		R43-701036-63	BPD-01	DD-103	1D3S1	821-01	5HK-S1	Audio Coupling
C29	2000		R43-602020-36	SI2000	D6-202	1W5D2	GP2-333-202	5HK-D2	Tone Comp.
C30	.01	400	R45-641032-1	P488-01	D6-103	PTE4S1	GP2-333-103	4TM-S1	Audio Output Plate
C31	10000		R43-701036-63	BPD-01	DD-103	1D3S1	821-01	5HK-S1	1st. IF Amp. Cathode

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	1Meg		R37-74577-1	"Concentrikit" B13-137 *		SBBT-697-S	Tone Control - Panel
B	2Meg			B13-139X *			Volume Control - Rear - Tapped @ 450KΩ
C	Shaft End			E202 *			Attach to R1A per instructions.
D	Switch			76-1 *			Attach to R1A per instructions.

* Additional parts to be used with "Concentrikit".

CHASSIS—TOP VIEW



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PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SILVERTONE PART No.	IRC PART No.	
R2	120Ω		R35-331211-1	BTS-120	FM-RF Amp. Cathode
R3	180Ω		R35-331811-1	BTS-180	FM-RF Amp. Decoupling
R4	22KΩ		R35-332231-1		Osc. Grid
R5	100Ω		R35-331011-1		Parasitic Suppressor
R6	1Meg		R35-331051-1		Conv. Grid
R7	2.2Meg		R35-332251-1	BTS-2.2Meg	AVC Network
R8	470KΩ		R35-334741-1	BTS-470K	Diode Load
R9	180Ω		R35-331811-1	BTS-180	Converter Plate
R10	2700Ω		R35-332721-1	BTS-2700	Converter Screen
R11	47KΩ		R35-334731-1	BTS-47K	Diode Filter
R12	2700Ω		R35-332721-1	BTS-2700	1st FM IF Amp. Decoupling
R13	68Ω		R35-336801-1		1st FM IF Amp. Cathode
R14	100Ω		R35-331011-1	BTS-100	2nd FM IF Amp. Cathode
R15	180Ω		R35-331811-1	BTS-180	2nd FM IF Amp. Decoupling
R16	22KΩ		R35-332231-1	BTS-22K	De-emphasis
R17	22KΩ		R35-332231-1	BTS-22K	Ratio Det. Diode Load See note 1.
R18	47KΩ		R35-334731-1	BTS-47K	Tone Compensation
R19	10Meg		R35-331061-1	BTS-10Meg	AF Amp. Grid
R20	470KΩ		R35-334741-1	BTS-470K	AF Amp. Plate
R21	180Ω	1	R35-431811-1	BTA-100	Audio Output Cathode
R22	470KΩ		R35-334741-1	BTS-470K	Audio Output Grid
R23	4.3Ω		R36-67223-1	BW-½-4.7	Filament Dropping - Wire Wound

Note 1. Some models use a 15KΩ resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SILVERTONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @.6A	450VCT .100ADC	6.3VAC @4.2A		R55-74585-1		P-3148	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SILVERTONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T2	3.5KΩ	3.5Ω	285Ω	.4Ω	R56-74584-1		A-3018	R0-2 ①	① Drill One New Mounting Hole

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	SILVERTONE PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	1650Ω	3.5Ω	R12-74757-1 R12-74762-1 ②	ST-175 Mod. F10-S	10E15	Models 1058 and 1059 only ② Models 1062 and 1063 only (12 inch).
	CONE DIA.	V. C. DIA.				
SP1B	9 3/4"	1"				

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	SILVERTONE PART No.	MERIT PART No.	
L1	FM Ant. Coil	0Ω		R50-74586-1		
L2	Plate Choke	.1Ω		R50-74626-1		
L3	FM RF Coil	0Ω		R50-74591-1		
L4	FM Osc. Coil	0Ω		R50-74588-1		
L5	AM Loop Ant.	1.8Ω		R27-74729-1		
L6	AM Ant. Coil	.1Ω		R50-74626-1		
L7	AM Osc. Coil	2.4Ω		R50-66184-1	BC-400 ①	Tap at 2.1Ω
L8	Cath. Choke	0Ω		R50-74589-1		
L9	1st. FM IF	1.2Ω	.2Ω	R57-74579-1	FM-254	
L10	1st. AM IF	20Ω	18.5Ω	R57-74580-1	BC-352	
L11	2nd. FM IF	1.2Ω	.2Ω	R57-74581-1	FM-254	
L12	2nd. AM IF	12.3Ω	12Ω	R57-74582-1	BC-353	
L13	Ratio Det. Trans.	2.6Ω	.7Ω	R57-74583-1	FM-255	Tap at .9Ω

① Drill new mounting hole.

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA								REMARKS
	SILVERTONE PART No.	ASTATIC PART No.		SHURE PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1		GC-AG-J	G-AG	WC36B	A56U	43	0-2 or S-2	

ASTATIC, SHURE, AND ELECTRO-VOICE NEEDLE LISTINGS SHOWN ABOVE ARE SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGES LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA			REMARKS
	SILVERTONE PART No.	WALCO PART No.	JENSEN PART No.	
M2		W-3AGS or W-3AGA	S-642 or S-652	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					SILVERTONE PART No.		
M3	Bayonet	6-8	.15	Brown	R30-20963-1		Type #47

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M4	Switch	R33-74578-1	Function Selector
M5	2 Gang Var. Cap.	R42-74596-1	(14-525MMF, 20-207MMF) AM Sections
A6	Trimmer	R42-61629-1	AM Ant. Adj.
	Dial	R74-74746-1	Lucite
	Pointer	R74-74557-1	

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set pointer 2 5/8 inches to the right of the lower left hand end of dial backplate.

AM ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to Pin 7, (Grid) of 6BE6, (V2). Low side to chassis.	455 KC (400∿ mod.)	AM (center)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.		Loop	1650KC	"	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.		"	1400KC	"	Tune for max. output.	"	A6	"

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point Ⓐ to chassis. The junction of these two resistors is alignment Point Ⓒ as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4.	.01MFD	High side to Pin 1, (grid) of 6BA6, (V3). Low side to chassis.	10.7MC (unmod.)	FM (CCW)	Tuning gang fully closed	DC probe to Point Ⓐ. Common to chassis.	A7, A8 A9	Adjust for maximum deflection.
5.	"	High side to Pin 7, (grid) of 6BE6, (V2) Low side to chassis.	"	"	"	"	A10, A11	"
6.	"	"	"	"	"	DC probe to Point Ⓑ. Common to Point Ⓒ.	A12	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
4.	.01MFD	High side to Pin 1, (grid), of 6BA6, (V3). Low side to chassis.	10.7MC (450KC swp).	FM (CCW)	Point of non-interference.	Vert. amp. to Point Ⓐ. Low side to chassis.	A7, A8, A9	Disconnect stabilizor capacitor C2. Adjust for maximum amplitude and symmetry as per Fig. 1.
5.	"	High side to Pin 7, (grid) of 6BE6, (V2). Low side to chassis.	"	"	"	"	A10, A11	"
6.	"	"	"	"	"	Vert. amp. to Point Ⓑ. Low side to chassis.	A12	Reconnect capacitor C2. Adjust A12 so 10.7MC occurs at center of crossover lines as per Fig. 2. SLIGHTLY retouch A7 for max. amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7.	300Ω carbon resistor	High side thru 300Ω to ungrounded FM antenna terminal. Low side to chassis.	108.5MC (unmod.)	FM	Tuning gang fully open.	DC probe to Point Ⓐ. Common to chassis.	A13, A14	Adjust for max. deflection
8.	"	"	87.5MC	"	Tuning gang fully closed	"	L4, L3	Check coils with a tuning wand. If necessary expand or compress coil turns for maximum deflection. If either coil is changed, repeat steps 7 & 8 until no further improvement can be made.

FIG. 1

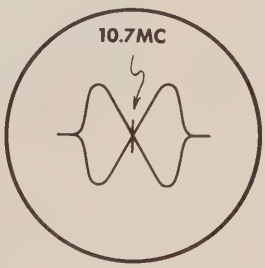
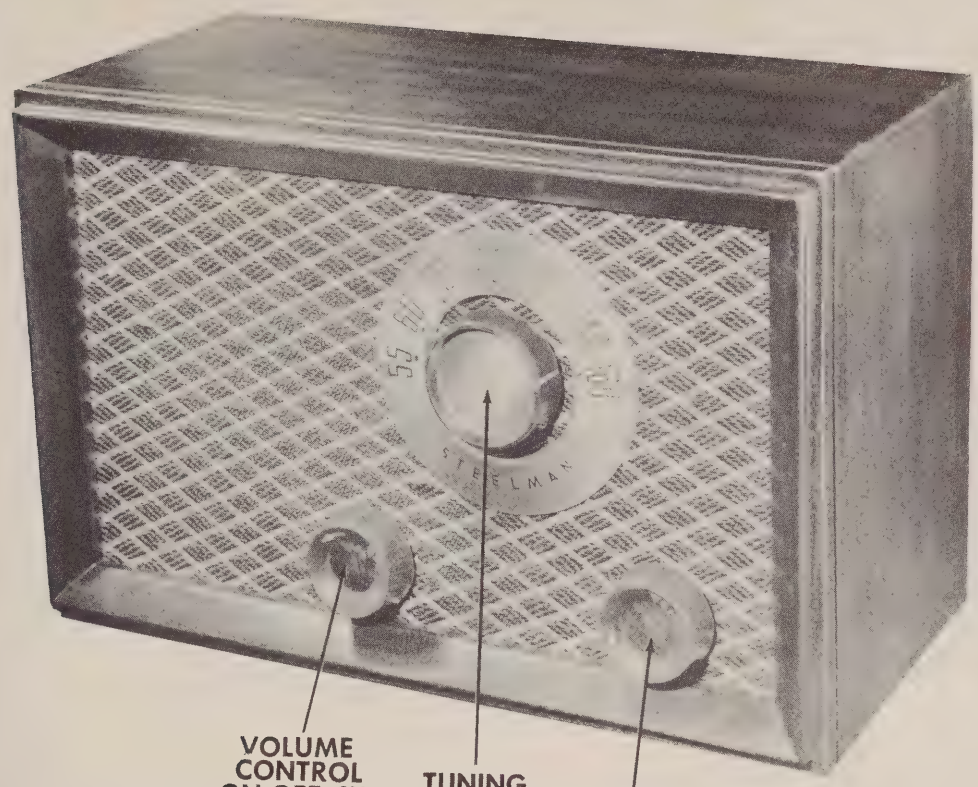


FIG. 2

STEELMAN
MODEL 5101



STEELMAN
MODEL 5101

TRADE NAME	Steelman Model 5101
MANUFACTURER	Steelman Phonograph & Radio Co., Inc., 12-30 Anderson Ave., Mt. Vernon, N.Y.
TYPE SET	AC-DC Operated AM Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types 12BE6 or 12SA7 or 14Q7 Conv., 12SK7 or 12BA6 or 14A7 IF Amp., 12SQ7 or 12AT7 or 14B6 Det.-AVC-AF Amp., 50C5 or 50L6GT or 50A5 Audio Output, 35W4 or 35Z5GT or 35Y4GT Rectifier
POWER SUPPLY	110-120 Volts AC/DC RATING .24 Amp. @ 117 Volts AC
TUNING RANGE--BROADCAST	540-1650KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.
Use isolation transformer, if available. If not, connect a .1MFD capacitor in series with low side of signal generator and B-.
Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to front stator of tuning gang. Low side to B-.	455KC (400% mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2.		Loop	1650KC	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver Adjust for maximum output.
3.		"	1400KC	Tune for max. output.	"	A6	"

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DENVER, COLORADO

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: STEELMAN PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1A	Converter	12BE6	12BE6	7CH	Tube Complement may compromise any combination of tubes listed.
B	Converter	12SA7	12SA7	8R	
C	Converter	14Q7	14Q7	8AL	
V2A	IF Amplifier	12SK7	12SK7	8N	
B	IF Amplifier	12BA6	12BA6	7BK	
C	IF Amplifier	14A7	14A7	8V	
V3A	Det. -AVC-AF Amp.	12SQ7	12SQ7	8Q	
B	Det. -AVC-AF Amp.	12AT7	12AT7	9A	
C	Det. -AVC-AF Amp.	14B6	14B6	8W	
V4A	Audio Output	50C5	50C5	7CV	
B	Audio Output	50L6	50L6	7AC	
C	Audio Output	50A5	50A5	6AA	
V5A	Rectifier	35W4	35W4	5BQ	
B	Rectifier	35Z5	35Z5	6AD	
C	Rectifier	35Y4GT	35Y4GT	5AA	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: STEELMAN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	150	CE-1000	PRS150/50-30-20		EDL44215		TVA-3448	Filter (Red)
B	40	150							Filter (Blue)
C	20	150							Decoupling (Yellow)
C2	.05	400	CP-503-2	P488-05	DF-503	PTE4S5		4TM-S5	AVC Filter
C3	200	500	CM-221	1468-0002	D6-201	5W5T2	GP2K-201	1FM-32	Diode RF Filter
C4	.01	600	CP-103-6	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C5	200	500	CM-221	1468-0002	D6-201	5W5T2	GP2K-201	1FM-32	AF Amp. Plate Bypass
C6	.01	600	CP-103-6	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C7	.002	600	CP-202-6	P688-002	D6-202	PTE6D2	GP2-333-202	6TM-D2	Tone Comp.
C8	.01	600	CP-103-6	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Output Plate
C9	.01	600	CP-103-6	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Line Filter
C10	.1	600	CP-104-6	P688-1	DF-104	PTE6P1		6TM-P1	Line Isolation

CONTROLS

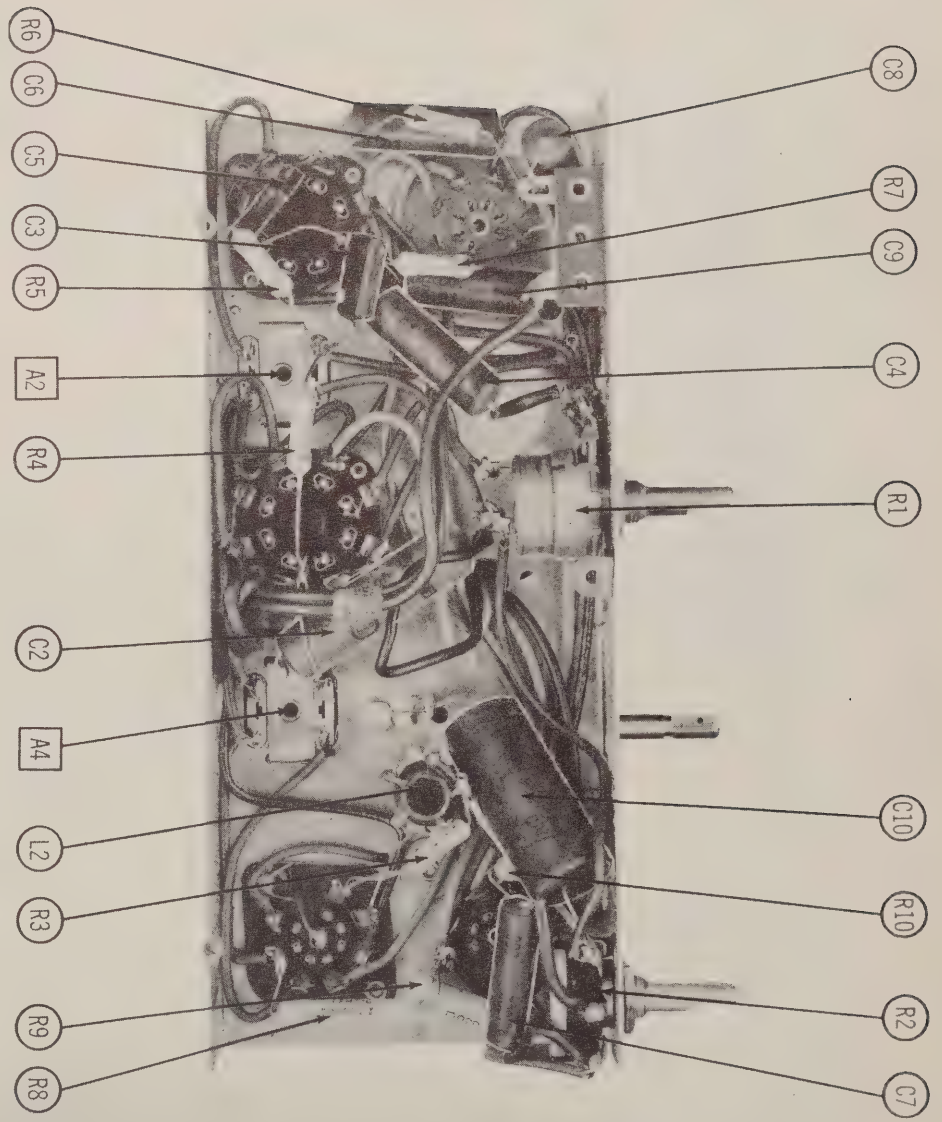
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEELMAN PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	1Meg	½	VC-18	QI3-137	AG-63-Z	B-70-S	Volume Control - See note
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Attach to R1A per instructions.
C	Switch		Not Req.	76-1	SWB	Not Req.	Attach to R1A per instructions.
R2A	500KΩ	½	VC-30	QI3-133	AM-58-S	B-59	Tone Control
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Attach to R2A per instructions.

Note: Some models use a 500KΩ control (Part No. VC-31).

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEELMAN PART No.	IRC PART No.	IDENTIFICATION CODES
R3	22KΩ	½	RC-223-2		Osc. Grid
R4	2.2Meg	½	RC-225-2	BTS-2.2Meg	AVC Network
R5	4.7Meg	½		BTS-4.7Meg	AF Amp. Grid-See note 1.
R6	220KΩ	½	RC-224-2	BTS-220K	AF Amp. Plate
R7	150Ω	½	RC-151-2	BTS-150	Output Cathode
R8	2200Ω	1	RC-222-2	BTA-2200	Filter
R9	330Ω	1	RC-331-2		Surge Limiter
R10	18Ω	½			Rectifier Ballast

Note 1. Some models use a 10Meg resistor in this application.



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		STEELMAN PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T1	2.5KΩ	3.3Ω	165Ω	.4Ω	Part of SP-100	A-3332 ①	A-3025 ①		① Bend mounting tabs down. File out slots and mount on original bracket.

SPEAKER

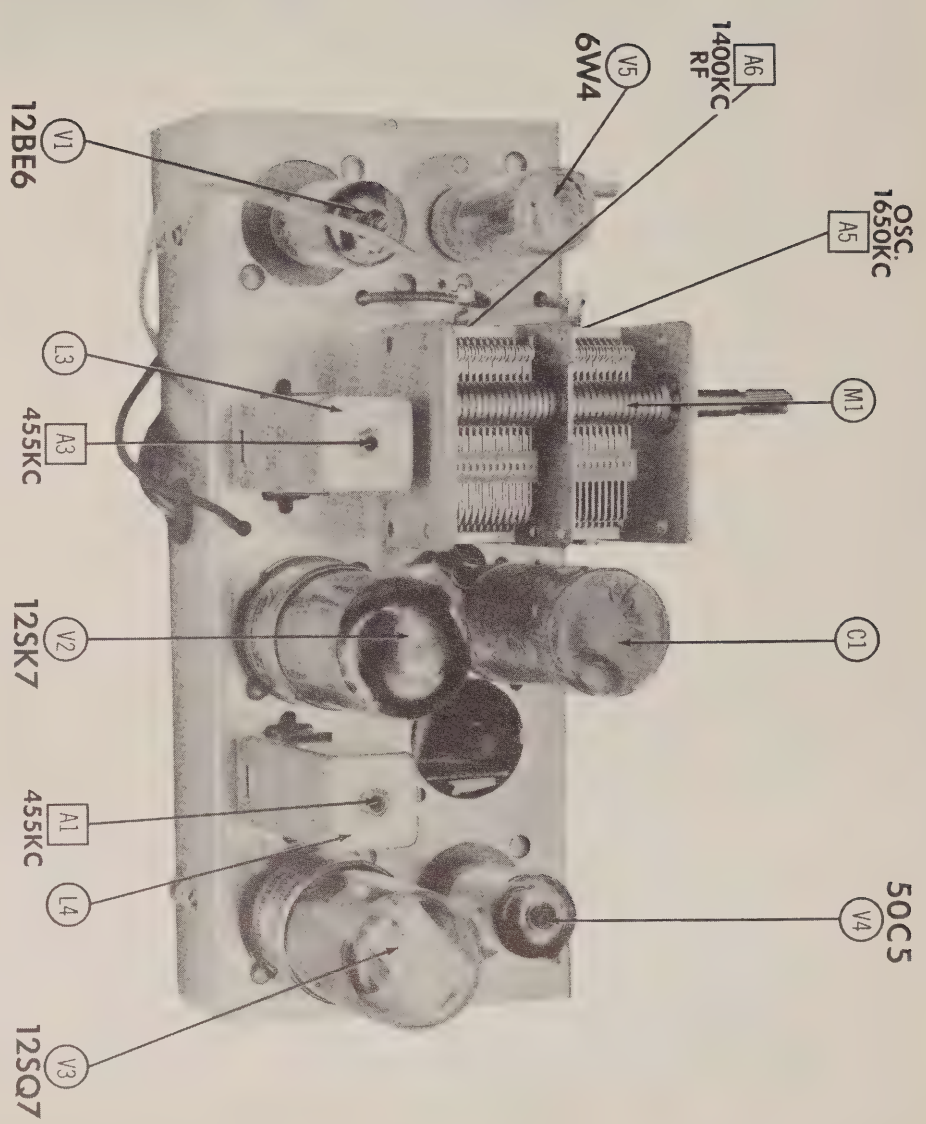
ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	STEELMAN PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	P.M.	3.3Ω	SP-100	ST-105 Mod. P5-X	5A1	
	CONE DIA.	V. C. DIA.				
SP1B	5"	9/16"				

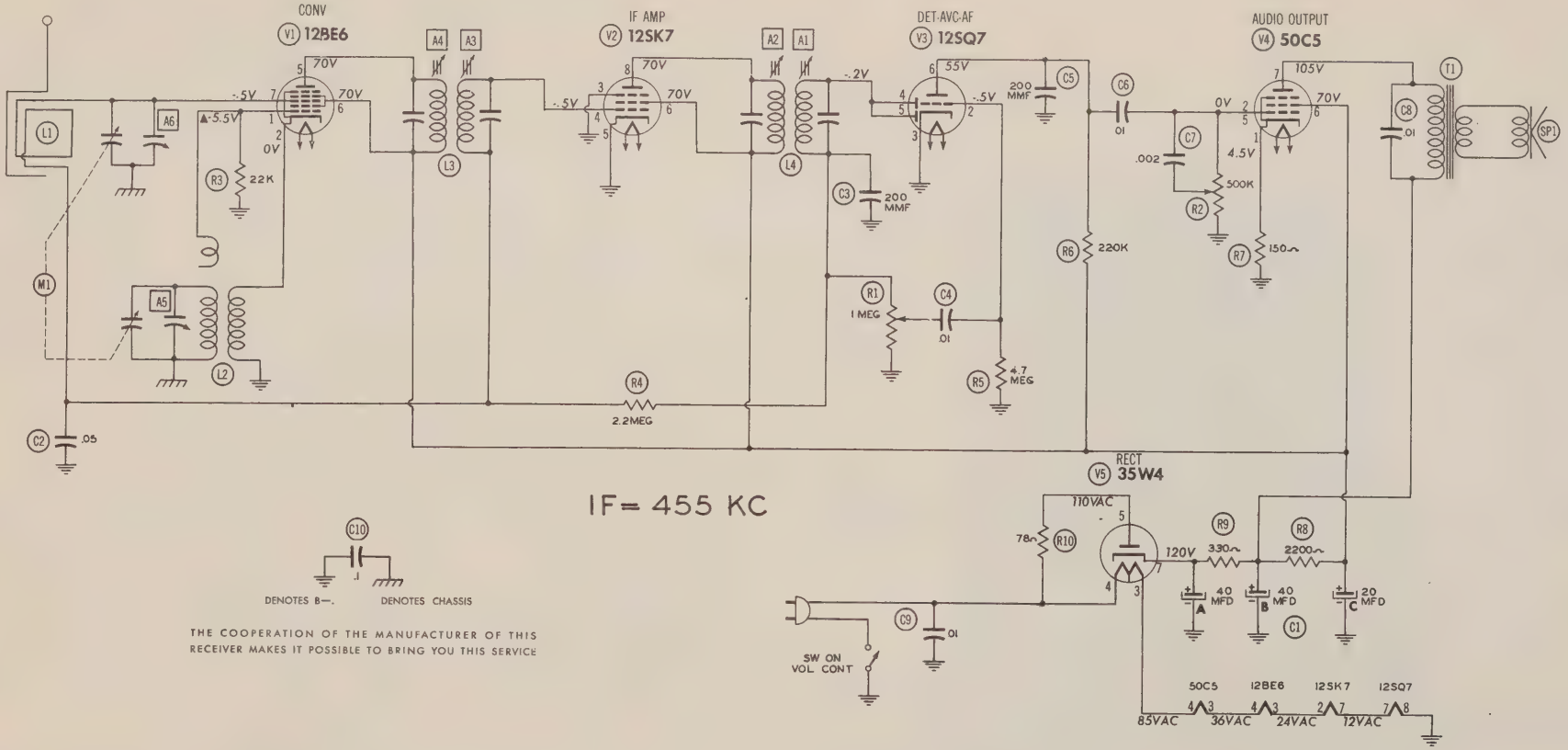
COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	STEELMAN PART No.	MERIT PART No.	
L1	Loop Ant.	3.1Ω				
L2	Osc. Coil	.4Ω	6Ω		BC-397	
L3	Input IF	22Ω	22Ω		BC-352	
L4	Output IF	22Ω	22Ω		BC-352	

MISCELLANEOUS

ITEM No.	PART NAME	STEELMAN PART No.	NOTES
M1	2 Gang Var. Cap.	CV-20	(27-459MMF, 36-202MMF)





RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	12BE6	22KΩ	.5Ω	24Ω	36Ω	†2.5KΩ	†2.5KΩ	3.2Meg	
V 2	12SK7	INF	24Ω	0Ω	3.2Meg	0Ω	†2.5KΩ	12Ω	†2.5KΩ
V 3	12SQ7	INF	10Meg	0Ω	1Meg	1Meg	†220KΩ	12Ω	0Ω
V 4	50C5	150Ω	500KΩ	36Ω	86Ω	500KΩ	†2.5KΩ	†495Ω	
V 5	35W4	†330KΩ	INF	86Ω	121Ω	139Ω	103Ω	70KΩ	

† MEASURED FROM PIN 7 OF V5
▲ TAKEN WITH VACUUM TUBE VOLTMETER

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162-12

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

PHOTOFACT* Folder

*TRADE MARK

STEWART-WARNER MODEL 9127-A

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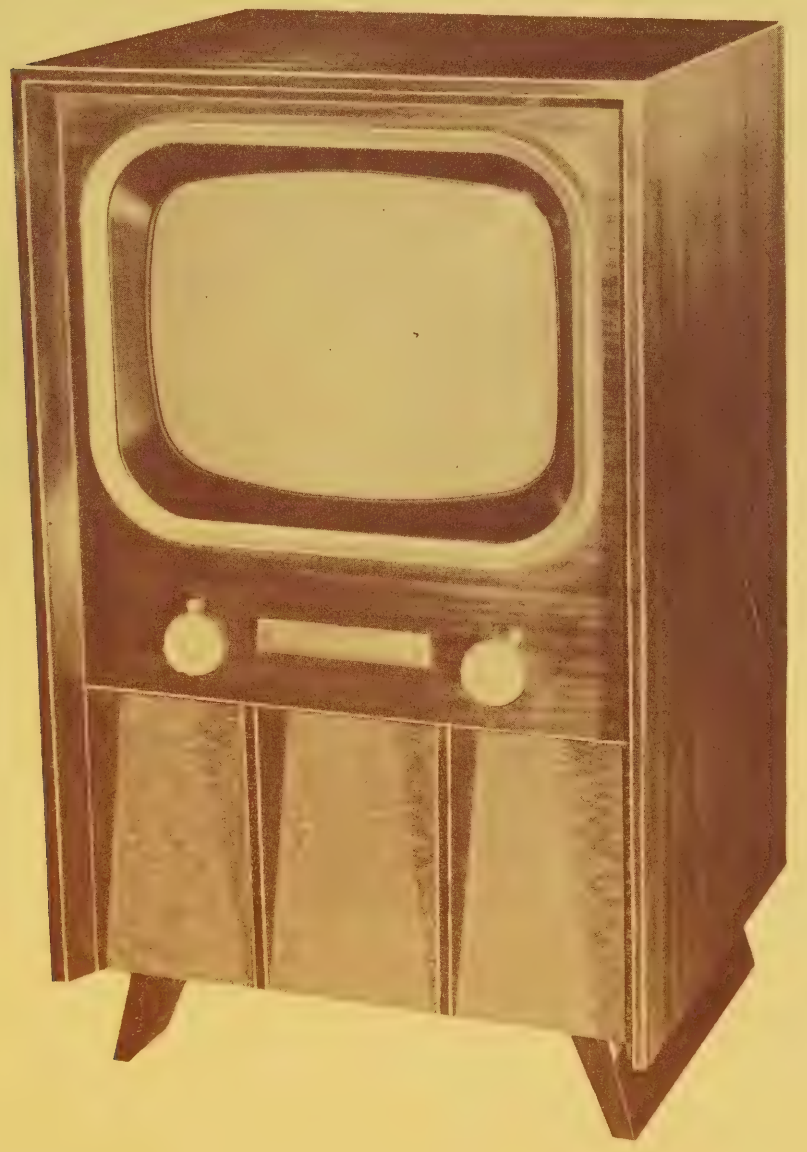

STEWART-WARNER
MODEL 9127-A

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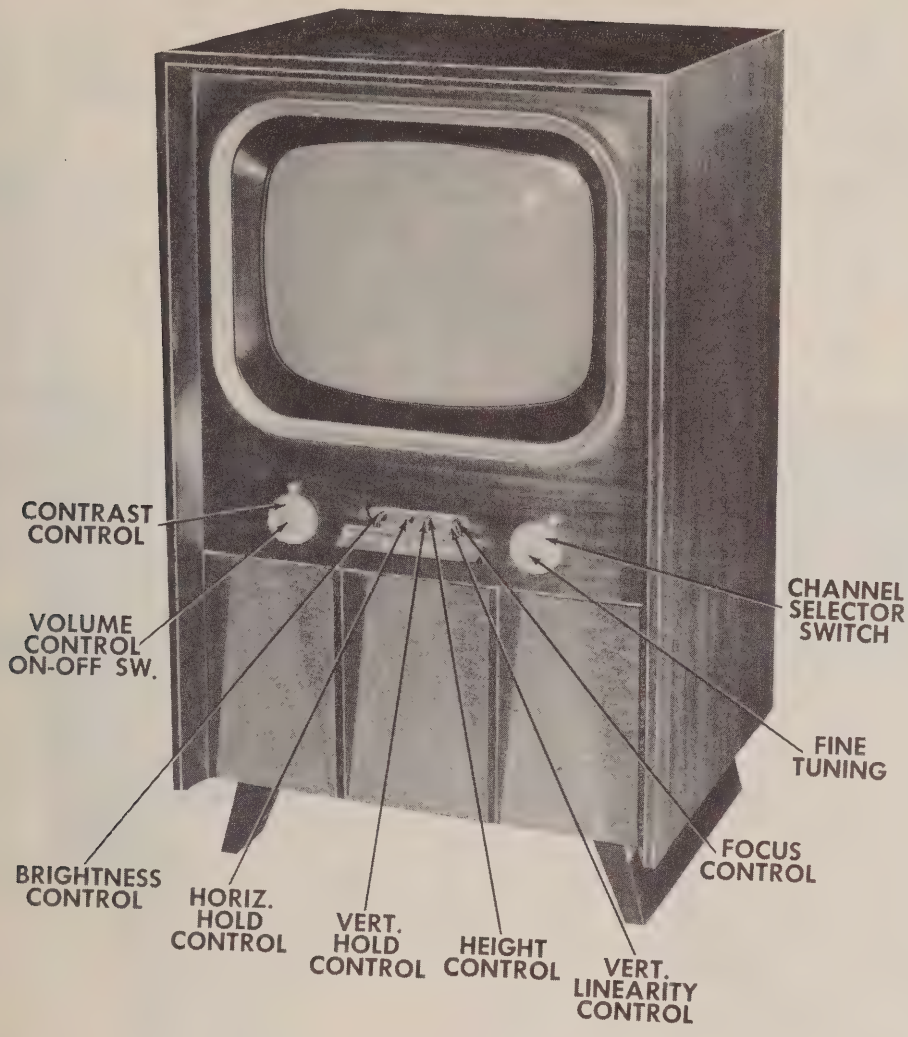
STEWART-WARNER MODEL 9127-A



STEWART-WARNER MODEL 9127-A

TRADE NAME	Stewart-Warner Model 2127-A
MANUFACTURER	Stewart-Warner Elect., Div. of Stewart-Warner Corp., 1300N. Kostner Ave., Chicago 15, Ill.
TYPE SET	Television Receiver
TUBES	Twenty Six
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING 2.1 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13

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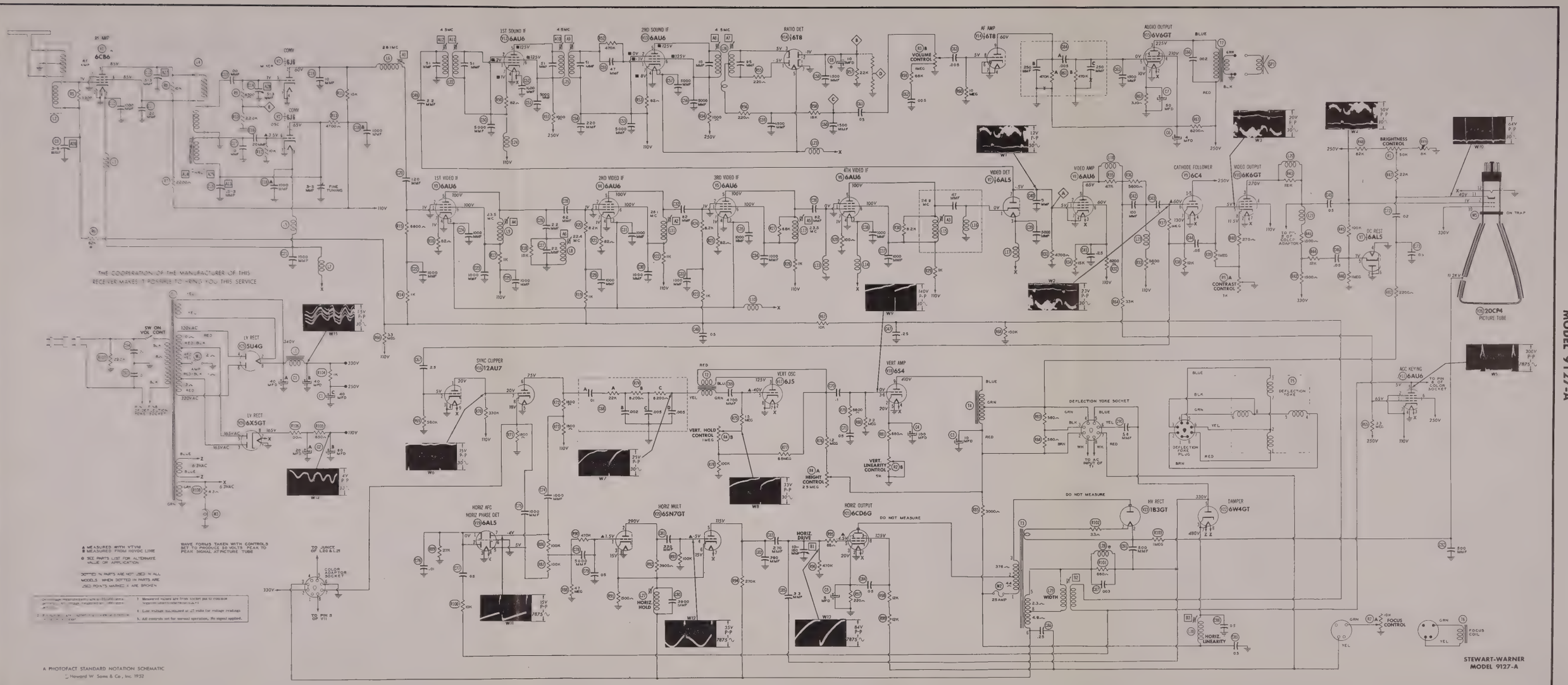

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

A MEASURED WITH VTVM
B MEASURED FROM HOVDC LINE
C SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DOTTED IN PARTS ARE NOT USED IN ALL MODELS. WHEN DOTTED IN PARTS ARE USED POINTS MARKED X ARE BROKEN

WAVE FORMS TAKEN WITH CONTROLS SET TO PRODUCE 80 VOLTS PEAK TO PEAK SIGNAL AT PICTURE TUBE

1. Measured values are from socket pin to chassis unless otherwise indicated.
2. Line voltage maintained at 117 volts for voltage readings.
3. All controls set for normal operation. No signal applied.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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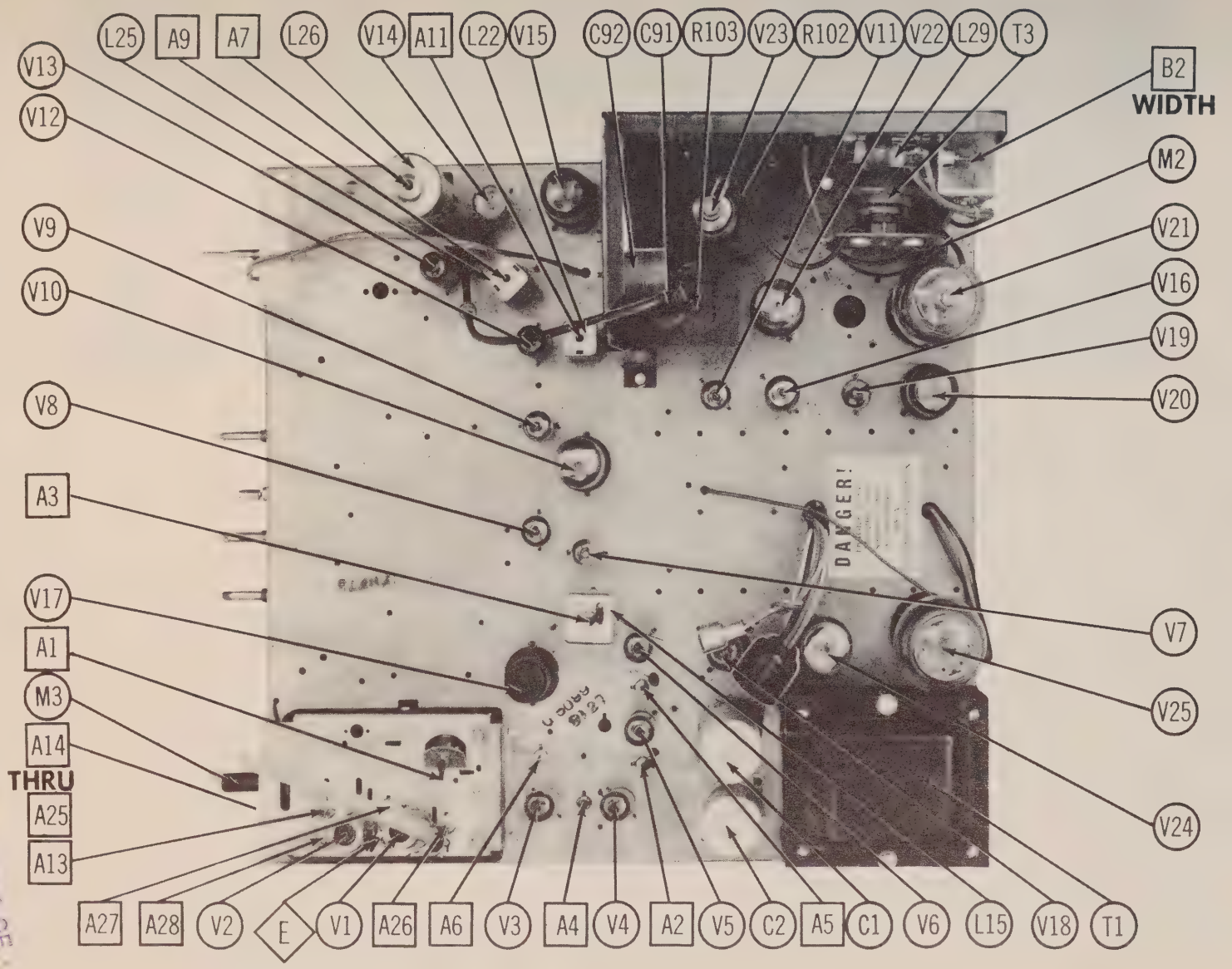

CHASSIS TOP VIEW

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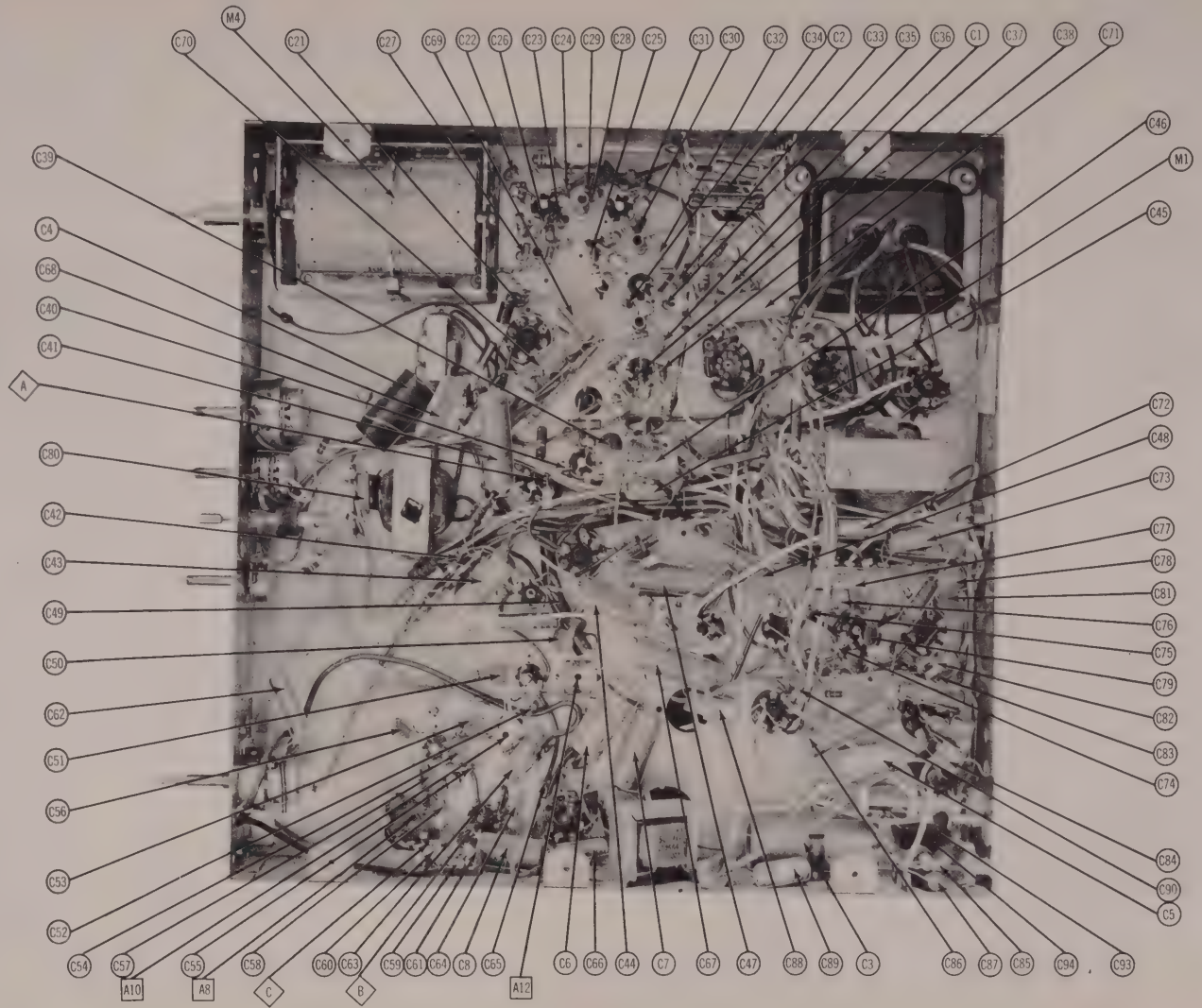
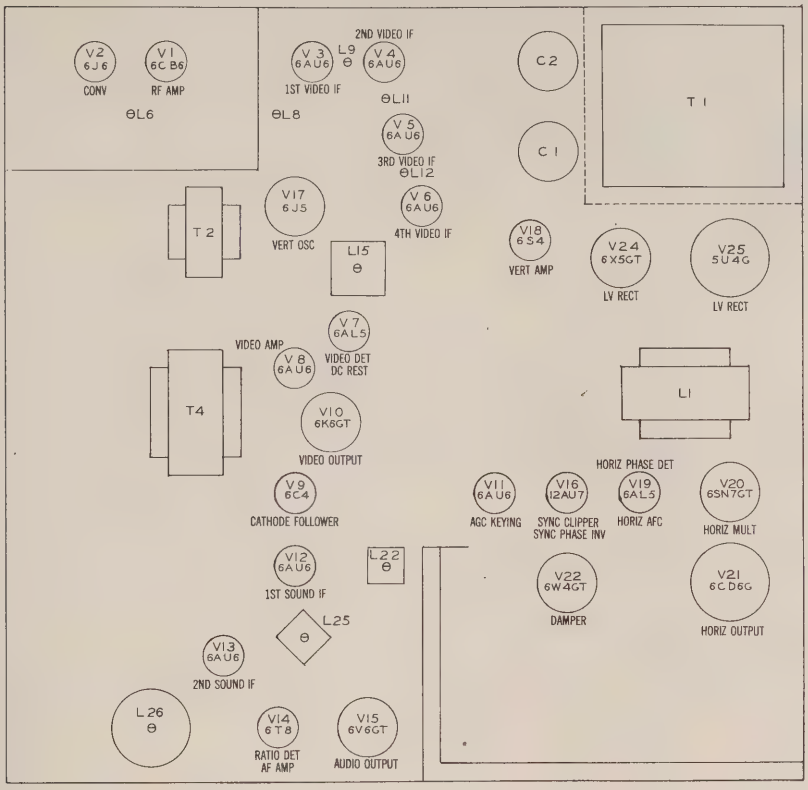
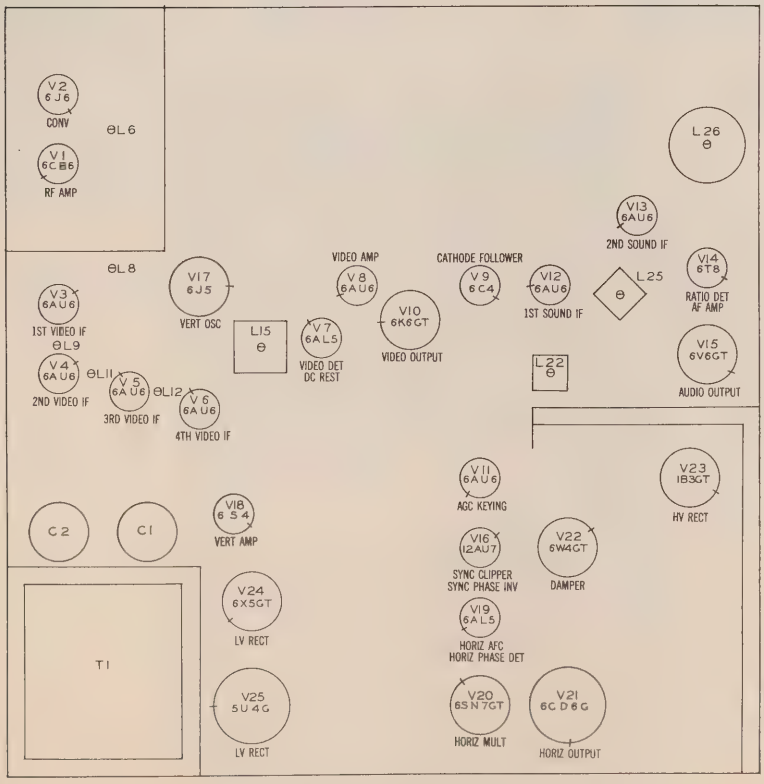


CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION



BOTTOM VIEW



TOP VIEW

TUBE PLACEMENT CHART

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube to disable the high voltage.

VIDEO IF ALIGNMENT

Remove the converter tube, (V2) and replace it with a 6J6 which has Pin 1 removed, this will disable the local oscillator and prevent the possibility of erroneous indications.
Connect the negative lead of a 3 volt battery to the junction of R67 and C48, connect the positive lead to chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1	Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	26.1MC	Any	DC probe to Point (A). Common to chassis.	A1, A2	Adjust for max. Deflection.
2.	"	"	24.9MC	"	"	A3	"
3.	"	"	23.5MC	"	"	A4, A5	"
4.	"	"	22.4MC	"	"	A6	Adjust for MINIMUM deflection.

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	25MC (10MC swp.)	22.25MC 26.75MC	Any	Vert. amp. thru 10KΩ to Point (A). Low side to chassis.		Check for response curve similar to Fig. 1. If necessary retouch A1 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point (B) to chassis. The junction of these two resistors is alignment Point (D) as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
6.	.01MFD	High side to Pin 1, (cathode) of 6AL5 (V7). Low side to chassis.	4.5MC (unmod.)	Any	DC probe to Point (B). Common to chassis.	A7, A8 A9, A10, A11, A12	Adjust for max. deflection. Notice that A7 has a very broad peak.
7.	"	"	"	"	DC probe to Point (C). Common to Point (D).	A7	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Continue with step 8.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6.	.01MFD	High side to Pin 1, (grid) of 6AU6, (V12). Low side to chassis.	4.5MC (450KC swp.)	4.5MC	Any	Vert. amp. thru 10KΩ to Point (B). Low side to chassis.	A8, A9 A10	Disconnect stabilizor capacitor C8. Adjust for maximum amplitude and symmetry as per Fig. 2.
7.	"	High side to Pin 1, (cathode) of 6AL5, (V7). Low side to chassis.	"	"	"	"	A11, A12	"
8.	"	"	"	"	"	Vert. amp. to Point (C). Low side to chassis.	A7	Reconnect capacitor C8. Adjust A7 so 4.5MC occurs at center of crossover lines as per Fig. 3. SLIGHTLY retouch A8 for max. amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.
Complete oscillator alignment may not be necessary. If the oscillator seems to be off frequency approximately the same amount for a majority of the channels it may be possible to correct them in one step using A13. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A13 will not bring all channels well within the range of the fine tuning control, it will be necessary to adjust the channel strip adjustment for each channel that is off frequency. The channel strip adjustments are reached through a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel.
Mid-position on the fine tuning control is the point where the "tooth" on the cam points straight down.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC swp.)	211.25MC 215.75MC	13	Vert. amp. thru 10KΩ to Point (A). Low side to chassis.	A14	Adjust to place sound marker as shown in Fig. 4. The video marker should be at 50%.
			207MC (10MC swp.)	205.25MC 209.75MC	12		A15	
			201MC (10MC swp.)	199.25MC 203.75MC	11		A16	
			195MC (10MC swp.)	193.25MC 197.75MC	10		A17	
			189MC (10MC swp.)	187.25MC 191.75MC	9		A18	
			183MC (10MC swp.)	181.25MC 185.75MC	8		A19	
			177MC (10MC swp.)	175.25MC 179.75MC	7		A20	
			85MC (10MC swp.)	83.25MC 87.75MC	6		A21	
			79MC (10MC swp.)	77.25MC 81.75MC	5		A22	
			69MC (10MC swp.)	67.25MC 71.75MC	4		A23	
			63MC (10MC swp.)	61.25MC 65.75MC	3		A24	
			57MC (10MC swp.)	55.25MC 59.75MC	2		A25	

ALIGNMENT INSTRUCTIONS (CONT.)

RF & MIXER ALIGNMENT

Leave the 3 volt bias connected as during video IF alignment.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MC swp.)	205.25MC 209.75MC	12	Vert. amp. thru 10KΩ to Point E. Low side to chassis.	A26, A27 A28	Adjust for response curve similar to Fig. 5 with markers above 90%.
10	"	"	213MC (10MC swp.)	211.25MC 215.75MC	13	"		Check all channels for response similar to Fig. 5. If markers fall below 70% on any channel, make slight adjustment of A26, A27 and A28 with channel switch set for that channel. Recheck all channels to see that they have not been seriously affected.
			201MC (10MC swp.)	199.25MC 203.75MC	11			
			195MC (10MC swp.)	193.25MC 197.75MC	10			
			189MC (10MC swp.)	187.25MC 191.75MC	9			
			183MC (10MC swp.)	181.25MC 185.75MC	8			
			177MC (10MC swp.)	175.25MC 179.75MC	7			
			85MC (10MC swp.)	83.25MC 87.75MC	6			
			79MC (10MC swp.)	77.25MC 81.75MC	5			
			69MC (10MC swp)	67.25MC 71.75MC	4			
			63MC (10MC swp.)	61.25MC 65.75MC	3			
			57MC (10MC swp .)	55.25MC 59.75MC	2			

INTERCARRIER BUZZ REDUCTION

After alignment is completed, turn the set on and tune in a strong TV station. Retouch the ratio detector transformer secondary adjustment, (A7) for minimum intercarrier buzz.

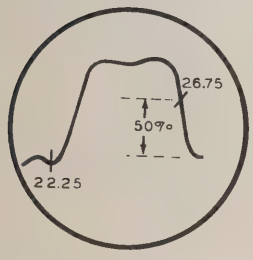


FIG.1

FIG. 2

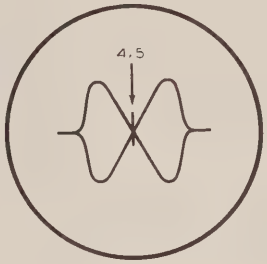


FIG. 3

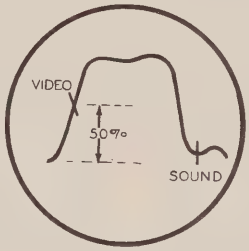


FIG.4

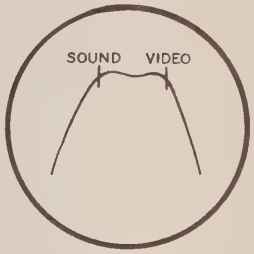
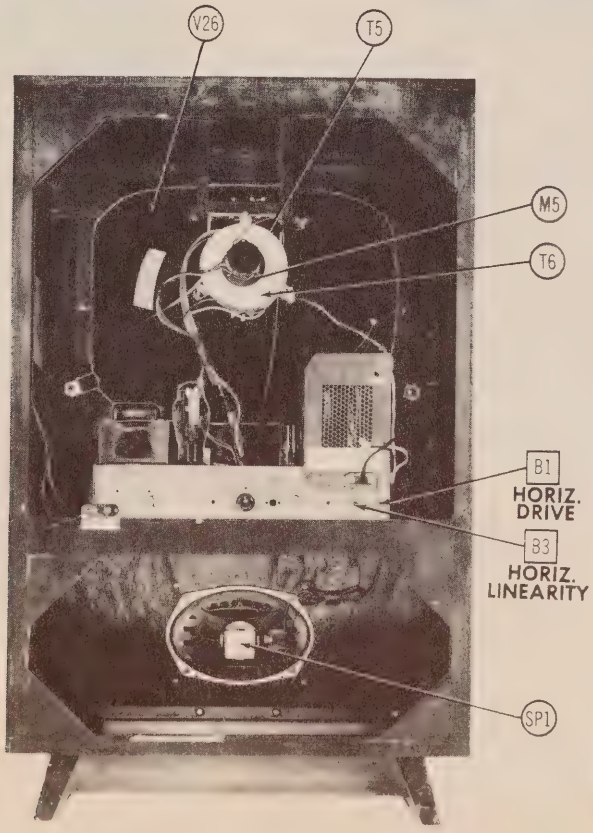


FIG.5



CABINET-REAR VIEW

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RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	190KΩ	0Ω	.1Ω	0Ω	■3.1KΩ	■3.1KΩ	0Ω		
V 2	6J6	■5.6KΩ	■16KΩ	.1Ω	0Ω	220KΩ	10KΩ	0Ω		
V 3	6AU6	118KΩ	0Ω	.1Ω	0Ω	■1.9KΩ	■1.9KΩ	82Ω		
V 4	6AU6	120KΩ	0Ω	.1Ω	0Ω	■1.9KΩ	■1.9KΩ	82Ω		
V 5	6AU6	120KΩ	0Ω	.1Ω	0Ω	■1.9KΩ	■1.9KΩ	82Ω		
V 6	6AU6	2.3Ω	0Ω	.2Ω	0Ω	■1.9KΩ	■1.9KΩ	100Ω		
V 7	6AL5	2.3Ω	0Ω	.5Ω	0Ω	1Meg	0Ω	4.7KΩ		
V 8	6AU6	4.7KΩ	0Ω	.1Ω	0Ω	■11KΩ	■6.2KΩ	0Ω		
V 9	6C4	†1KΩ	INF	0Ω	.1Ω	†1KΩ	1Meg	12KΩ		
V 10	6K6GT	INF	0Ω	†3KΩ	■950Ω	1Meg	INF	.1Ω	1.1KΩ	
V 11	6AU6	■44KΩ	■950Ω	.1Ω	0Ω	100KΩ	†1KΩ	■950Ω		
V 12	6AU6	■950Ω	■950Ω	.1Ω	0Ω	†2KΩ	†2KΩ	■1KΩ		
V 13	6AU6	■470KΩ	■950Ω	.4Ω	0Ω	†2KΩ	†2KΩ	■1KΩ		
V 14	6T8	INF	22KΩ	INF	0Ω	.4Ω	0Ω	0Ω	10 Meg	†510KΩ
V 15	6V6GT	INF	.1Ω	†1.7KΩ	†9.2KΩ	500KΩ	†1KΩ	0Ω	330Ω	
V 16	12AU7	■330KΩ	560KΩ	0Ω	0Ω	0Ω	■4.5KΩ	■330KΩ	1.8KΩ	.1Ω
V 17	6J5	0Ω	.1Ω	#1.6Meg	INF	2Meg	INF	0Ω	0Ω	
V 18	6S4	INF	1.9KΩ	2.2Meg	.1Ω	0Ω	2.2Meg	INF	INF	#4.3KΩ
V 19	6AL5	27KΩ	27KΩ	0Ω	.1Ω	4.8Meg	0Ω	4.8Meg		
V 20	6SN7GT	5.2Meg	†4KΩ	1.5KΩ	100KΩ	†270KΩ	1.5KΩ	.1Ω	0Ω	
V 21	6CD6G	INF	0Ω	220Ω	INF	470KΩ	470KΩ	.1Ω	†24KΩ	TOP CAP #48Ω
V 22	6W4GT	INF	INF	360KΩ	INF	†75Ω	†100Ω	#0Ω	#.1Ω	
V 23	1B3GT	PINS 1 THROUGH 8 HAVE INF RESISTANCE								TOP CAP #424Ω
V 24	6X5GT	INF	.1Ω	11Ω	INF	12Ω	INF	0Ω	18KΩ	
V 25	5U4G	.2Ω	60KΩ	INF	23Ω	0Ω	24Ω	220KΩ	60KΩ	
V 26	20CP4	0Ω	1.1Meg	PIN 10 †70Ω	PIN 11 40KΩ	PIN 12 .1Ω				

ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM PIN 8 OF V25
■ MEASURED FROM PIN 8 OF V 24
MEASURED FROM PIN 3 OF V22

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Adjust the horizontal hold control until the picture synchronizes horizontally.

Adjust the horizontal drive trimmer, (B1), counter-clockwise as far as possible without crowding or vertical lines appearing in the picture.

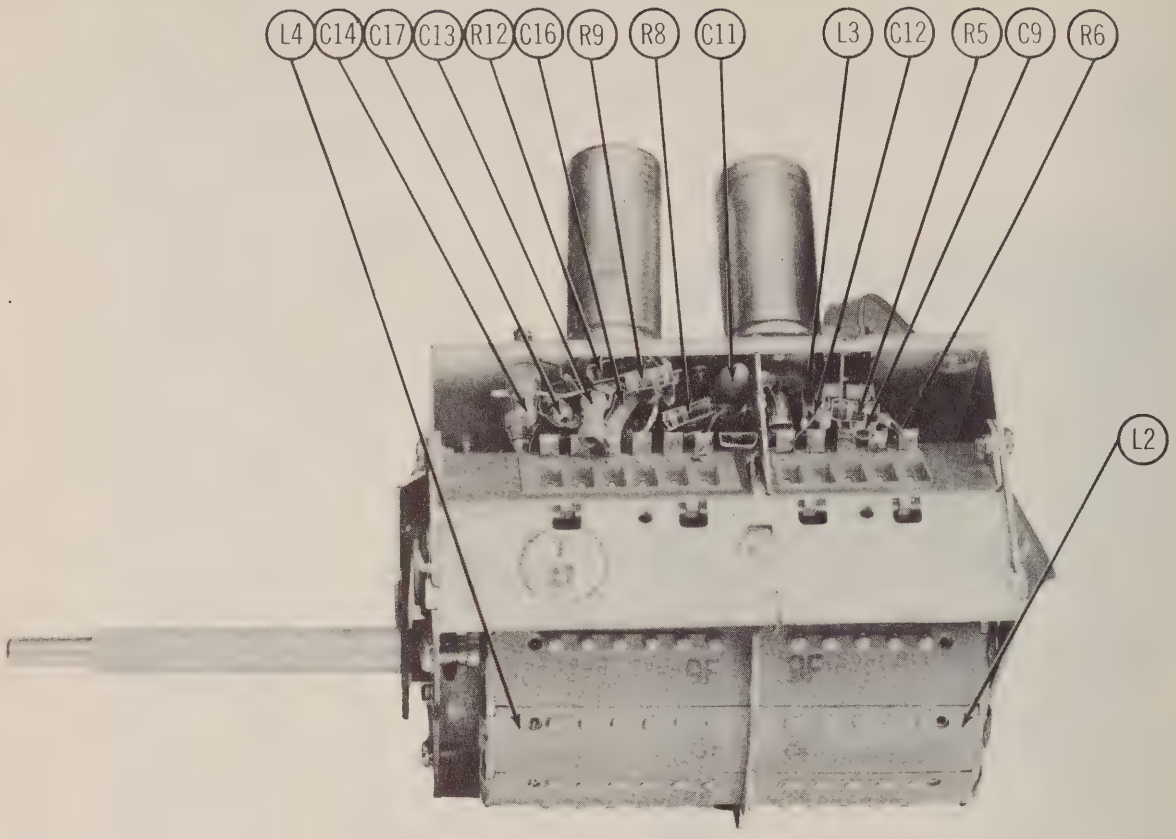
Adjust the width slug, (B2), until the picture fills the mask horizontally.

Adjust the horizontal linearity slug, (B3), until the picture is symmetrical from left to right. Slight readjustment of B1 may be required for optimum results.

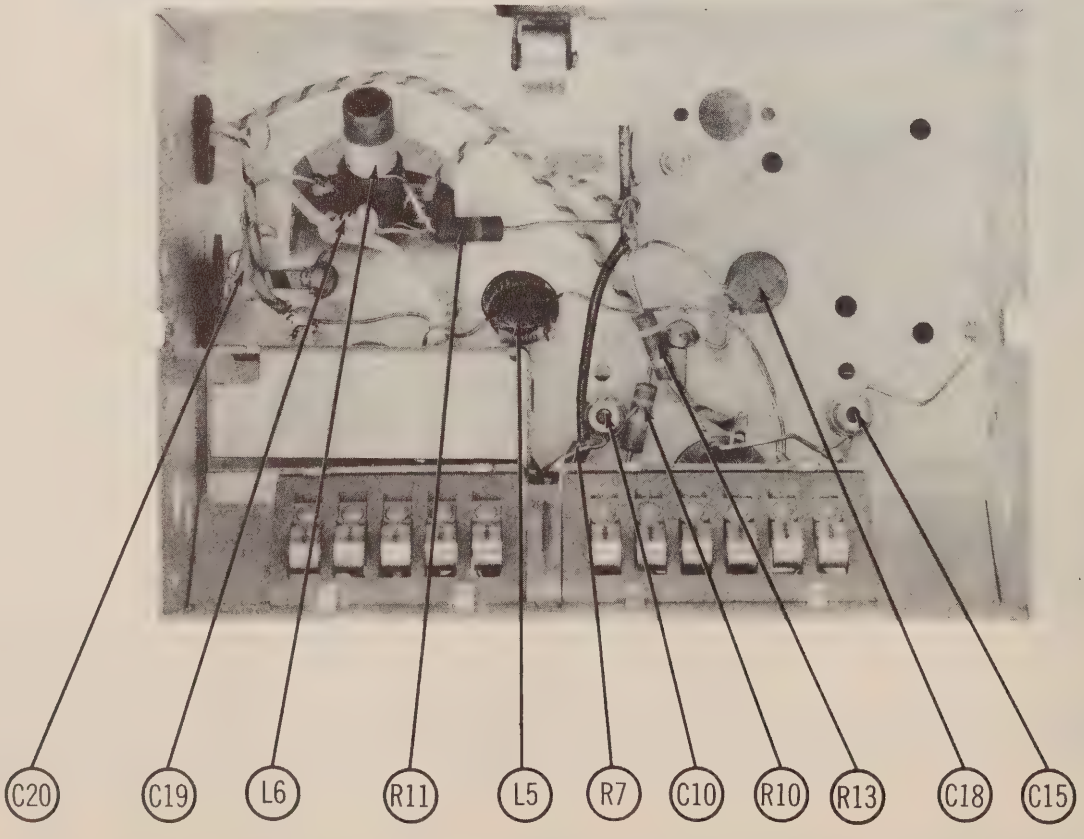
DISASSEMBLY INSTRUCTIONS

1. Remove 4 push-on type control knobs from front panel.
2. Remove 6 wood screws from back cover and remove cover.
3. Disconnect built-in antenna and speaker pin plugs.
4. Remove 2 wood screws and remove antenna bracket from cabinet.
5. Disconnect yoke plug, focus coil plug, picture tube, HV anode lead and picture tube ground strap.
6. Remove 6 chassis bolts. Remove chassis.
7. Remove 4 speaker mounting nuts. Remove speaker.

Note: For picture tube removal it is necessary to remove chassis as outlined above.



RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		STEWART WARNER PART No.	STANDARD REPLACEMENT		
V1A	RF Amplifier	6CB6	6CB6	7CM	
B	RF Amplifier	6AG5	6AG5	7BD	
C	RF Amplifier	6BC5	6BC5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	1st. Video IF Amp.	6AU6	6AU6	7BK	
V4	2nd. Video IF Amp	6AU6	6AU6	7BK	
V5	3rd. Video IF Amp.	6AU6	6AU6	7BK	
V6	4th. Video IF Amp.	6AU6	6AU6	7BK	
V7	Video Det.-DC Restorer	6AL5	6AL5	6BT	
V8	Video Amplifier	6AU6	6AU6	7BK	
V9	Cathode Follower	6C4	6C4	6BG	
V10	Video Output	6K6GT	6K6GT	7S	
V11	Keyed AGC	6AU6	6AU6	7BK	
V12	1st. Sound IF Amp.	6AU6	6AU6	7BK	
V13	2nd Sound IF Amp	6AU6	6AU6	7BK	
V14	Ratio Det.-AF Amplifier	6T8	6T8	9E	
V15	Audio Output	6V6GT	6V6GT	7AC	
V16	Sync. Clipper-Sync. Phase Inv.	12AU7	12AU7	9A	
V17	Vert. Oscillator	6J5	6J5	6Q	
V18	Vert. Amplifier	6S4	6S4	9AC	
V19	Horiz. AFC-Horiz. Phase Detector	6AL5	6AL5	6BT	
V20	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V21	Horiz. Output	6CD6G	6CD6G	5BT	
V22	Damper	6W4GT	6W4GT	4CG	
V23	HV Rectifier	1B3GT	1B3GT	3C	
V24	LV Rectifier	6X5GT	6X5GT	6S	
V25	LV Rectifier	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA			RTMA BASE TYPE	NOTES
	Stewart Warner PART No.	SYLVANIA PART No.	THOMAS PART No.		
V26	20CP4	20CP4	20CP4	12D	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	Stewart Warner PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	40	450	508072	AFH3-44		UPT44445		TVL-3787	▲ Filter
B	40	450							■ Filter
C	40	450							▲ Decoupling
C2A	20	300	508073	AFH2-60		UPT6245		TVL-2579	■ Filter
B	60	300							▲ Filter
C3	10	600		PRS600/10		BRHV610		TVA-1902	Vert. Output Decoupling
C4	100	50	508680	PRS50/100		BRH501		TVA-1310	Vert. Output Cathode
C5	5	50	508684	PRS150/4		BR550		TVA-1303	Horiz. Output Cathode
C6	4	450	504719	PRS450/4		BR445		TVA-1702	Audio Output Screen
C7	50	25	502527	PRS25/50		BR502A		TVA-1206	Audio Output Cathode
C8	10	150	505174	PRS150/12		BR1015		TVA-1406	Stabilizing Cap. *
C9	3-9		509064		829-10				Variable Trimmer
C10	.5-3		507968		829-3				Variable Trimmer
C11	120		513439	SI120	D6-121		GP2K-121	5GA-T12	RF Amp. Dec.
C12	1000		513009	SI1000	D6-102		GP2L-102	5HK-D1	RF Amp. Fil.
C13	100		513440	SI100	D6-101		GP1K-101	5GA-T1	RF Coupling
C14	.5-3		507968		829-3				Variable Trimmer
C15	.5-3		507968		829-3				Variable Trimmer
C16	20		513441	SI20NP0	TCZ-20		NP0K-200		Osc. Grid Cap.
C17	10		513442	SI10N750	TCN-10		N750K-100	5TCU-Q1	Fixed Trimmer
C18A	1000		508576	BPD-2X001	DD2-102		812-001	5HK-2D1	Conv. Fil.
B	1000								RF Bypass
C19	10		513444	SI10NP0	TCZ-10		NP0K-100	5TCC-Q1	Fixed Trimmer
C20	120		512542	SI120	D6-121		GP2K-121	5GA-T12	IF Coupling
C21	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	Fil. Bypass
C22	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	AGC Filter
C23	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	1st. Video IF Dec.
C24	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	1st. Video IF Fil.
C25	1000		513009	SI-1000	D6-102	1W5D1	GP2L-102	5HK-D1	RF Bypass
C26	2.2		513001		TCZ-2.2		NP0K-2R2		IF Coupling
C27	22		513445		TCZ-22		NP0K-220	5TCC-Q22	Fixed Trimmer
C28	82		513016	SI82			GP1K-820		IF Coupling
C29	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	AGC Filter
C30	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	2nd. Video IF Dec.
C31	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	2nd. Video IF Fil.
C32	82		513016	SI82			GP1K-820		IF Coupling
C33	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	AGC Filter
C34	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	3rd. Video IF Dec.
C35	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	3rd. Video IF Fil.
C36	82		513016	SI82			GP1K-820		IF Coupling
C37	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	4th. Video IF Dec.
C38	1000		513009	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1	4th. Video IF Fil.
C39	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Video Det. Fil.
C40	5		513432	SI5NP0	TCZ-4.7		NP0K-050		Video Det. Fil.
C41	.25	200	512045	P488-25		GT2P25		2TM-P25	Video Amp. Screen
C42	100		513002	SI100	D6-101	5W5T1	GP1K-101	5GA-T1	Video Coupling
C43	.1	200	512033	P288-1	DF-104	PTE4P1		2TM-P1	Video Coupling
C44	.05	200	512027	P288-05	DF-503	PTE4S5		2TM-S5	Video Coupling
C45	.05	600	512031	P688-05	DF-503	PTE6S5		6TM-S5	Video Coupling
C46	.05	600	512031	P688-05	DF-503	PTE6S5		6TM-S5	Video Coupling
C47	.25	200	512045	P488-25		GT2P25		2TM-P25	AGC Filter
C48	.05	200	512027	P288-05	DF-503	PTE4S5		2TM-S5	AGC Filter
C49	2.2		513001		TCZ-2.2		NP0K-2R2		Sound IF Coupling
C50	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	1st. Sound IF Grid Dec.

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (CONT.)

ITEM No	RATING CAP	RATING VOLT	Stewart-Warner PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C51	5000		513013	84D 005	DD-502	1D5D5	811-005	5HK-D5	1st. Sound IF Dec.
C52	1000		513009	811000	D6-102	1W5D1	GP2L-102	5HK-D1	1st.Sound IF Fil.
C53	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	RF Bypass
C54	220		513018	82I30	D6-231	5WS725	GP3K-231	5GA-T22	2nd.Sound IF Grid Dec.
C55	47		513433	8147	D6-470	5WSQ5	GP3K-470	5GA-Q47	2nd.Sound IF Grid Dec.
C56	5000		513613	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd.Sound IF Dec.
C57	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	2nd.Sound IF Fil.
C58	1500		513010	811500	D6-152	1W5D15	GP2L-152	5HK-D15	RF Bypass
C59	1500		513010	811500	D6-152	1W5D15	GP2L-152	5HK-D15	RF Bypass
C60	1500		513010	811500	D6-152	1W5D15	GP2L-152	5HK-D15	De-emphasis
C61	.05	200	513037	P286-05	DF-503	2T5E485		2TM-S5	Audio Coupling
C62	.005	600	512007	P688-005	D6-502	PT6ED5	GP2-333-502	6TM-D5	Tone Comp.
C63	.005	600	513007	P688-005	D6-502	PT6ED5	GP3-333-502	6TM-D5	Audio Coupling
C64A	.006								Audio Coupling
B	250		† 505858		†PC-70				Audio Coupling
C									AF Amp. Plate
C65	1500		513010	811500	D6-152	1W5D15	GP2L-152	5HK-D15	Audio Output Grid
C66	.002	500	512003	P688-002	D6-202	PT6ED2	GP2-333-202	6TM-D2	Audio Output Grid
C67	.25	200	512045	P688-25		GT2P25		2TM-P25	Audio Output Plate
C68A	.01			P688-01		PT6E81	GP2-333-103		Sync. Coupling
B	.002		† 508063	P688-002	DD-103	PT6ED2	GP2-333-202	5MK-S1	Vert.Sync. Coupling
C	.008			P688-005	PC-100	PT6ED5	GP2-333-502	10C1	Vert.Integrator Net.
D	.005			P688-005		PT6ED5	GP2-333-502		Vert. Integrator Net.
C69	4700	500	513533	1464-005		1DR5D5		MS-25	Vert. Integrator Net.
C70	.1	600	512037	P688-1	DF-104	PT6EP1		6TM-P1	Vert. Osc. Grid Cap.
C71	.05	600	512506	P688-05	DF-503	PT6E85		6TM-S5	Vert. Sweep Coupling
C72	.02	600	512010	P688-02	DF-203	PT6E82		6TM-S2	Vert. Discharge
C73	.05	600	512031	P688-05	DF-503	PT6E85		6TM-S5	Vert. Sweep Coupling
C74	1000		513009	811000	D6-102	1W5D1	GP2L-102	5HK-D1	Integrator Net
C75	1000		513009	811000	D6-102	1W5D1	GP2L-102	5HK-D1	Horiz.Sync. Coupling
C76	.01	600	512013	P688-01	D6-103	PT6E81	GP2-333-103	6TM-S1	Horiz. Sync. Coupling
C77	.05	600	512031	P688-05	DF-503	PT6E85		6TM-S5	Voltage Divider
C78	5000		513013	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Horiz. Feedback
C79	.05	200	512027	P286-06	DF-503	PT6E485		2TM-S5	Horiz. AFC Filter
C80	3300	500	512540	1464-004		1DR5D4			Horiz. AFC Filter
C81	330	500	512541	1469-00035					Fixed Trimmer
C82	390	500	512535	1469-0004		5R5T4		MS-34	Horiz. MV Feedback
C83	270	500	512536	1468-0003	D6-271	5W5T3	GP3K-271	MS-33	Horiz. Discharge
C84	.05	600	512031	P688-05	DF-503	PT6E85		6TM-S5	Horiz. Sweep Coupling
C85	3.3	1500	513025						Horiz. Output Screen
C86	.25	200	512045	P488-25		GT2P25		2TM-P25	Horiz. Feedback
C87	.003	600	512005	P688-003	D6-302	PT6ED3	GP2-333-302	6TM-D3	Horiz Sweep Coupling
C88	.05	600	512031	P688-05	DF-503	PT6E85		6TM-S5	Fixed Trimmer
C89	.05	600	512031	P688-05	DF-503	PT6E85		6TM-S5	Damper Filter
C90	56	1500	513037						Damper Filter
C91	500	20000	508888	HV20C	TV3-502			HV Filter	Fixed Trimmer
C92	500	20000	508888	HV20C	TV3-502			HV Filter	HV Filter
C93	.01	400	512255	P488 01	D6 103	PT6E81	GP2-333-103	4TM-S1	Line Filter
C94	.01	400	512255	P488-01	D6-103	PT6E81	GP2-333-103	4TM-S1	Line Filter

* Some Models use 4MFD in this application (Part No. 502547)
† Items C64A, C64B, C64C, R61A and R61B are combined in one unit
When replacing items seperately , C64B and C64C should total 250MMF
● Replaces Mfgr's Part No. 508062. Install DD-103 in series with input lead of PC-100
† Replaces Mfgr's Part No. 508063. Install 5HK-S1 in series with input lead of 10C1
¶ Items C68A, C68B, C68C, C68D, R74A, R74B, and R74C are combined in one unit

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Stewart Warner PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	50KΩ	½	508889	QII-123	AG-44-S	AN-31	Brightness Control
B	Shaft		Not Req.	Not Req.	RS-2	AK-4	Attach to R1A per instructions
R2A	10KΩ	4	509302				Focus Control - Panel
B	5KΩ	½	Not Req.				Vert. Linearity Control - Rear
R3A	3000Ω	½	508892		RTV-312		Contrast Control - Panel
B	1Meg	½	Not Req.				Volume Control & SW - Rear
R4A	2.5Meg	½	508893		RTV-313		Height Control - Panel
B	1Meg	½	Not Req.				Vert. Hold Control - Rear

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Stewart Warner PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ± 10% UNLESS OTHERWISE SPECIFIED
R5	3900Ω	½	510147	BTS-3900	Antenna Coil Shunt
R6	82KΩ	½	510171	BTS-82K	RF Amplifier Grid See Note 1
R7	3200Ω 20%	½	510143	BTS-3200	RF Amplifier Decoupling
R8	10KΩ	½	510155	BTS-10K	RF Coil Shunt
R9	4700Ω 20%	½	510149	BTS-4700	Converter Grid
R10	220KΩ 20%	½	510179	BTS-220K	Converter Grid
R11	15KΩ 20%	½	510158		Converter Plate
R12	10KΩ 20%	½	510155	BTS-10K	Oscillator Grid
R13	4700Ω	½	510149	BTS-4700	Oscillator Plate
R14	1000Ω 20%	½	510137	BTS-1000	AGC Network
R15	6800Ω	½	510151		1st.Video IF Grid
R16	82Ω	½	510117	BTS-82	1st. Video IF Cathode
R17	1000Ω 20%	½	510137	BTS-1000	1st. Video IF Decoupling
R18	15KΩ	½	510157		1st. Video IF Coil Shunt
R19	1000Ω 20%	½	510137	BTS-1000	AGC Network
R20	6200Ω	½	510153		2nd.Video IF Grid
R21	82Ω	½	510117	BTS-82	2nd. Video IF Cathode
R22	1000Ω 20%	½	510137	BTS-1000	2nd. Video IF Decoupling
R23	1000Ω 20%	½	510137	BTS-1000	AGC Network
R24	6200Ω	½	510153		3rd.Video IF Grid
R25	82Ω	½	510117	BTS-82	3rd. Video IF Cathode
R26	1000Ω 20%	½	510137	BTS-1000	3rd. Video IF Decoupling
R27	6800Ω	½	510151		3rd. Video IF Coil Shunt
R28	100Ω	½	510119	BTS-100	4th. Video IF Cathode
R29	1000Ω 20%	½	510137	BTS-1000	4th. Video IF Decoupling
R30	6200Ω	½	510153		4th. Video IF Coil Shunt
R31	4700Ω	½	510148	BTS-4700	1st. Video Amplifier Grid
R32	6200Ω	½	510253	BTA-6200	1st. Video Amplifier Screen
R33	5600Ω	½	510150	BTS-5600	1st. Video Amplifier Plate

RESISTORS (CONT.)

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Stewart-Warner PART No.	IRC PART No.	IDENTIFICATION CODES
R34	15KΩ	1	510257	BTA-15K	Bleeder
R35	47KΩ	½	510166	BTS-47K	Peaking Coil Shunt
R36	5600Ω	½	510150	BTS-5600	Video Peaking
R37	1Meg 20%	½	510191	BTS-1Meg	2nd. Video Amplifier Grid
R38	12KΩ	2	510356	BTB-12K	2nd. Video Amplifier Cathode
R39	1Meg 20%	½	510191	BTS-1Meg	Video Output Grid
R40	270Ω	½	510128	BTS-270	Video Output Grid
R41	1500Ω	2	510339	BTB-1500	Video Output Plate
R43	1500Ω	2	510339	BTB- 1500	Video Output Plate
R43	12KΩ 5%	1	510723	BTS-12K 5%	Peaking Coil Shunt
R44	12KΩ	1	510156	BTS-12K	Video Peaking
R45	100KΩ 20%	½	510172	BTS-100K	Picture Tube Grid
R46	1Meg	½	510191	BTS-1Meg	Picture Tube Grid
R47	22KΩ	½	510161	BTS-22K	Picture Tube Cathode
R48	82KΩ	½	510171	BTS-82K	Voltage Divider
R49	18KΩ	½	510159	BTS-18K	Voltage Divider
R50	82Ω	½	510117	BTS-82	1st. Sound IF Cathode
R51	1000Ω 20%	½	510137	BTS-1000	1st. Sound IF Decoupling
R52	470KΩ 20%	½	510185	BTS-470K	2nd. Sound IF Grid
R53	82Ω	½	510117	BTS-82	2nd. Sound IF Cathode
R54	1000Ω 20%	½	510137	BTS-1000	2nd. Sound IF Decoupling
R55	220Ω	½	510124	BTS-220	Balancing
R56	220Ω	½	510124	BTS-220	Balancing
R57	22KΩ	½	510160	BTS-22K	Ratio Detector Diode Load
R58	18KΩ	½	510159	BTS-18K	De-emphasis
R59	68KΩ 20%	½	510170	BTS-68K	Tone Compensation
R60	10Meg 20%	½	510197	BTS-10Meg	AF Amplifier Grid
R61A	470KΩ	½	† 505858	BTS-470K	AF Amplifier Plate
B	470KΩ	½		BTS-470K	AF Output Grid
R62	330Ω	1	510227	BTA-330	AF Output Cathode
R63	8200Ω	½	510153	BTS-8200	Decoupling
R64	33KΩ 20%	½	510164	BTS-33K	Isolation
R65	3.3Meg 20%	½	510194	BTS-3.3Meg	AGC Amplifier Grid
R66	3.3Meg 20%	½	510194	BTS-3.3Meg	AGC Network
R67	10KΩ 20%	½	510155	BTS-10K	AGC Network
R68	100KΩ 20%	½	510173	BTS-100K	AGC Network
R69	560KΩ	½	510186	BTS-560K	Sync. Clipper Grid
R70	330KΩ	½	510181	BTS-330K	Sync. Clipper Plate
R71	1800Ω 5%	½	510739	BTS-1800 5%	Sync. Phase Inverter Cathode
R72	1800Ω 5%	½	510739	BTS-1800 5%	Sync Phase Inverter Plate
R73	1800Ω 5%	½	510739	BTS-1800 5%	Sync Phase Inverter Plate
R74A	22KΩ	½		BTS-22K	Integration Network
B	8200Ω	½	¶ 508068	BTS-8200	Integration Network
C	8200Ω	½		BTS-8200	Integration Network
R75	1.5Meg 5%	½	510721	BTS-1.5Meg 5%	Vertical Oscillator Grid
R76	1.2Meg	½	510738	BTS-1.2Meg	Vertical Oscillator Plate
R77	6.8Meg 20%	½	510196	BTS-6.8Meg	Bias Network
R78	100KΩ	½	510172	BTS-100K	Bias Network
R79	6800Ω	½	510151	BTS-6800	Vertical Peaking
R80	2.2Meg 20%	½	510193	BTS-2.2Meg	Vertical Output Grid
R81	680Ω	½	510133	BTS-680	Vertical Output Cathode
R82	2200Ω 20%	½	510143	BTS-2200	Integration Network
R83	560Ω	½	510152	BTS-560	Damping
R84	560Ω	½	510152	BTS-560	Damping
R85	3000Ω 5%	2	510713		Decoupling
R86	100KΩ	½	510172	BTS-100K	Horiz. AFC Diode Load
R87	100KΩ	½	510172	BTS-100K	Horiz. AFC Diode Load
R88	4.7Meg 20%	½	510195	BTS-4.7Meg	Horiz. AFC Diode Load
R89	27KΩ	½	510162	BTS-27K	Horiz. AFC Diode Load
R90	470KΩ 20%	½	510185	BTS-470K	Horiz. AFC Filter
R91	1500Ω	½	510139	BTS-1500	Horiz. MV Cathode
R92	3900Ω	½	510147	BTS-3900	Horiz. MV Plate
R93	100KΩ	½	510172	BTS-100K	Horiz. MV Grid
R94	270KΩ	½	510180	BTS-270K	Horiz. MV Plate
R95	68Ω 20%	½	510116		Parasitic Suppressor
R96	470KΩ	½	510184	BTS-470K	Horiz. Output Grid
R97	220Ω	5	510718		Horiz. Output Cathode Wire Wound
R98	12KΩ	2	510356	BTB-12K	Horiz. Output Screen
R99	12KΩ	2	510356	BTB-12K	Horiz. Output Screen
R100	10KΩ	1	510254	BTA-10K	Horiz. AFC Feedback
R101	680Ω	½	510133	BTS-680	Horiz. Linearity Network
R103	2.3Ω	2	510725		HV Rectifier Filament
R103	1Meg	2	510391		HV Filter
R104	1000Ω	10	510754	1 3/4A-1000	Filter Wire Wound
R105	850Ω	5	510736	1 3/4A-850	Filter Wire Wound
R106	100Ω 20%	2	510319	BW-2-100	Filter
R107	220KΩ 20%	½	510179	BTS-220K	Line Isolation
R108	4.3Ω	1	510704		Series Dial Light Wire Wound

Note 1. Some Models may use a 47KΩ Resistor in this application
† Items C64A, C64B, C64C, R61A and R61B are combined in one unit
¶ Items C68A, C68B, C68C, C68D, R74A, R74B and R74C are combined in one unit

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA Stewart Warner PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @2.1A	700VCT .220ADC Tapped @340VCT .060ADC	5VAC @3.0A	6.3VAC @10.5A SEC.4 6.3VAC @1.2A	509679	P-8165 ①	P-3067 ①	

① Add series Resistor to reduce plate voltage

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	REPLACEMENT DATA Stewart Warner PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	NOTES
T2	152Ω	940Ω	508076	A-8111 2	A-3000 2	TB0-1 3	Vert. Oscillator Trans.
T3	420Ω	7.2Ω Tapped @ 4.9Ω SEC. 2	508679	HVO-7 4	A-8130 4		Horiz.Output Trans.
T4	1100Ω Tapped @ 130Ω	0Ω	508956	A-8123	A-3037		Vert.Output Trans.
T5A	16Ω		509704	DY-8	MDF-70		Horiz.. Deflection Coils
B	16Ω		115185 ⑤				Vert. Deflection Coils
T6	12.5KΩ		162326				Focus Coil

② Drill One New Mounting Hole
③ Mount on top of Chassis
④ Drill New Mounting Holes
⑤ Includes cable & Plug

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES PRI.	RATING DC RES SEC.	REPLACEMENT DATA Stewart Warner PART No.	STANCOR PART No	MERIT PART No	CHICAGO PART No.	INSTALLATION NOTES
T7	6KΩ	3.5Ω	630Ω	9Ω	505912	A-3823	A-3019	R0-9 2	2 Drill One New Mount Hole

SPEAKER

ITEM No.	RATINGS FIELD RES.	RATINGS V. C. IMP.	REPLACEMENT DATA Stewart Warner PART No.	JENSEN PART No.	QUAM PART No.	NOTES
SP1A	PM	3.5Ω	508174	ST-810 Mod.P69-V	69A2	
	CONE DIA.	V. C. DIA				
SP1B	6 1/4"x9 1/8"	9/16"				

FILTER CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D C RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ~P)	REPLACEMENT DATA Stewart Warner PART No.	STANCOR PART No	MERIT PART No	CHICAGO PART No	INSTALLATION NOTES
L1	.220ADC	73Ω	2.9 Henry	508341	C-2325	C-2291 ①	TR-3300 ①	① Drill One New Mounting Hole

COILS (RF-IF)

ITEM No.	USE	DC RES PRI.	DC RES SEC.	REPLACEMENT DATA Stewart Warner PART No.	MERIT PART No.	IRC PART No.	NOTES
L2	Ant. Coils	0Ω		507952			Channel #2
L3	Fil. Choke	0Ω		507970			
L4	RF, Mixer Grid & Osc. Coils	0Ω		507972			Channel #2
L5	Fil. Choke	0Ω		507971			
L6	1st.Video IF	.6Ω		509061			Includes Slug Part #509063
L7	Fil. Choke	0Ω		507584			
L8	22.4MC Trap	.2Ω		509056	TV-150		Includes Slug Part #507357
L9	2nd. Video IF	.1Ω		507343	TV-103		Less Slug Part #507357
L10	Fil. Choke	0Ω		507584			
L11	3rd. Video IF	.1Ω		507343	TV-103		Less Slug Part #507357
L12	4th.Video IF	.1Ω		507343	TV-103		Less Slug Part #507357
L13	RF Choke	2.3Ω		507367			
L14	Fil. Choke	.22Ω		507587		CLA	.47 Microhenries
L15	5th.Video IF	.1Ω		507591			Includes Condenser and L16
L16	RF Choke	2.3Ω		507367			
L17	Fil. Choke	.8Ω		507588		CLA	1 Microhenries
L18	Peaking Coil	25Ω		507374	TV-188		406 Microhenries
L19	Peaking Coil	25Ω		507374	TV-188		406 Microhenries
L20	Peaking Coil	4.7Ω		508069	TV-184		187 Microhenries
L21	Peaking Coil	5.6Ω		508070	TV-184		213 Microhenries
L22	1st.Sound IF	3Ω	2Ω	508061			
L23	Fil. Choke	.8Ω		507588		CLA	1 Microhenries
L24	RF Choke	14Ω		507373			
L25	2nd.Sound IF	3Ω	2Ω	508061			
L26	Ratio Det. Trans.	4Ω	.7Ω	509706	TV-110 ①		Primary Slug Part No. 508438 Secondary Slug Part No. 508439, Tap @ .7Ω
L26	Ratio Det. Trans.			507321	TV-110 ①		Alternate - Primary Slug Part No.508894 Secondary Slug Part No. 508894
L27	Horiz. Osc.	82Ω		508067	TV-183		Includes Slug Part No. 508963
L28	Anti Ringing Coil	5.6Ω		509615			Not used in all sets
L29	Width Coil	30Ω	38Ω	508667	MWC-1		Includes Slug Part No. 508784
L30	Horiz. Lin.	4.5Ω		162190	MWC-2		Includes Slug Part No 507429

① Drill New Mounting Holes

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA Stewart - Warner PART No. FUSE	Stewart - Warner PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	REMARKS
M1	3AG	1/4A. 250V	508713	508714	312.250	155020	
M2	3AG Pigtail	1A. 250V	509517		318001		

PROPERTY OF
L. F. BLANKENSHIP
[illegible] MEADE ST.
DENVER, COLORADO

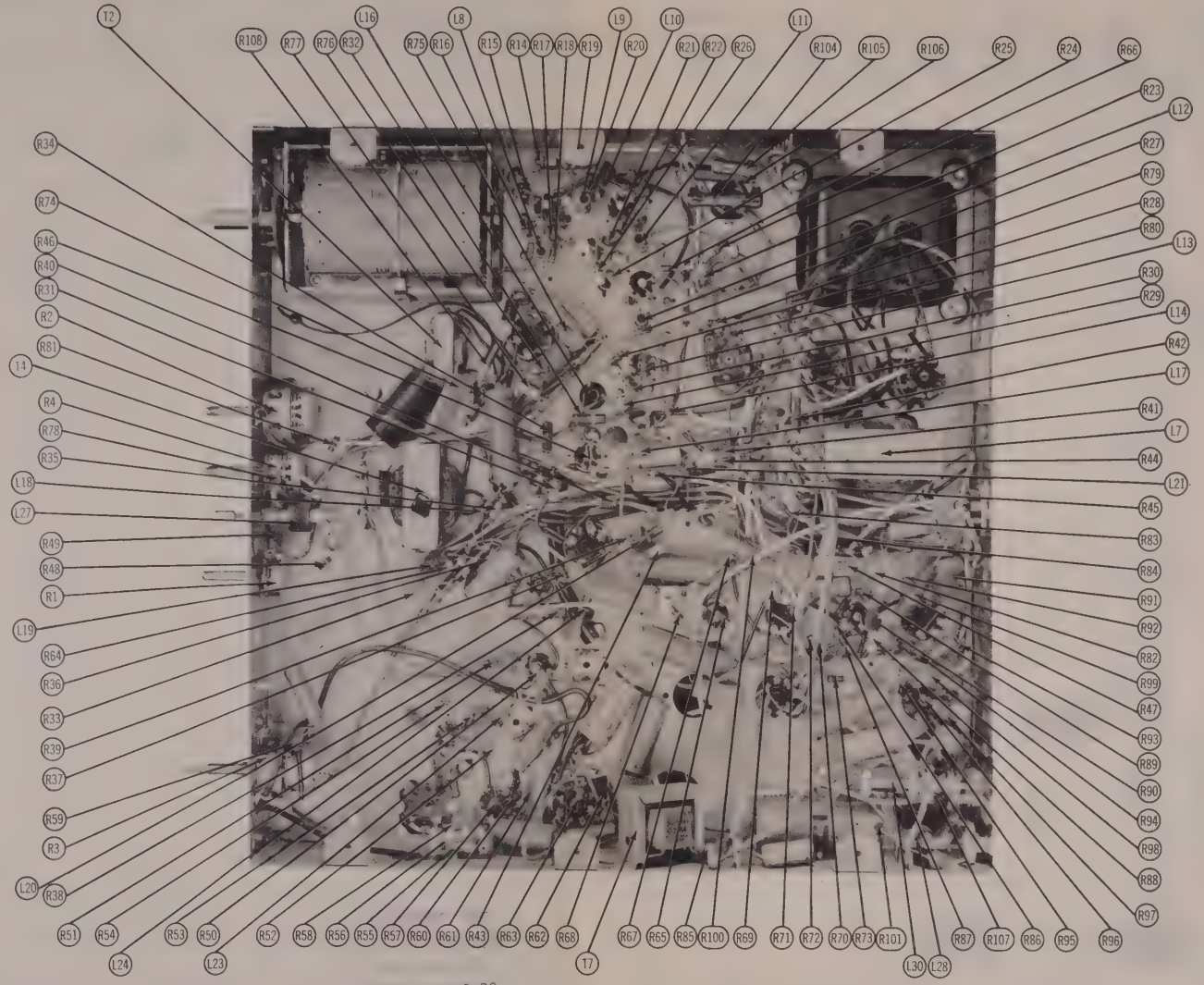
PARTS LIST AND DESCRIPTIONS (Continued)

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					Stewart Warner PART No.		
M3	Bayonet	6-8	.15	Brown	118921	118921	Type No. #47

MISCELLANEOUS

ITEM No.	PART NAME	Stewart Warner PART No.	NOTES
M4	RF Tuner	508890	Complete with tubes
M5	Ion Trap	508603	
B1	Trimmer	508071	Horiz. Drive 10-160MMF
	Ant. Coils	507953	Channel #3
	Ant. Coils	507954	Channel #4
	Ant. Coils	507955	Channel #5
	Ant. Coils	507956	Channel #6
	Ant. Coils	507957	Channel #7
	Ant. Coils	507958	Channel #8
	Ant. Coils	507959	Channel #9
	Ant. Coils	507960	Channel #10
	Ant. Coils	507961	Channel #11
	Ant. Coils	507962	Channel #12
	Ant. Coils	507963	Channel #13
	RF, Mixer Grid & Osc. Coil	507973	Channel #3
	RF, Mixer Grid & Osc. Coil	507974	Channel #4
	RF, Mixer Grid & Osc. Coil	507975	Channel #5
	RF, Mixer Grid & Osc. Coil	507976	Channel #6
	RF, Mixer Grid & Osc. Coil	507977	Channel #7
	RF, Mixer Grid & Osc. Coil	507978	Channel #8
	RF, Mixer Grid & Osc. Coil	507979	Channel #9
	RF, Mixer Grid & Osc. Coil	507980	Channel #10
	RF, Mixer Grid & Osc. Coil	507981	Channel #11
	RF, Mixer Grid & Osc. Coil	507982	Channel #12
	RF, Mixer Grid & Osc. Coil	507983	Channel #13
	Escutcheon	520128	For Window
	Glass	520129	Window
	Knob	509019	Contrast
	Knob	509016	Channel Selector
	Knob	509017	Fine Tuning
	Knob	509018	Off/On Volume



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

IMPORTANT FILING NOTICE

The contents for this envelope will be found among the last folders in this complete set of folders . . . *unless* it has been purchased as part of a *complete* volume of PHOTOFACTS assembled in a DeLuxe Binder.

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MODEL 219-8A

TRAV-LER
MODELS 219-8A, 219-8B (Ch. 11A2)

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L. F. BLANKENSHIP
3924 MILAGE ST.
DENVER, COLORADO

HOWARD W. SAMS & CO., INC. • Indianapolis, Indiana

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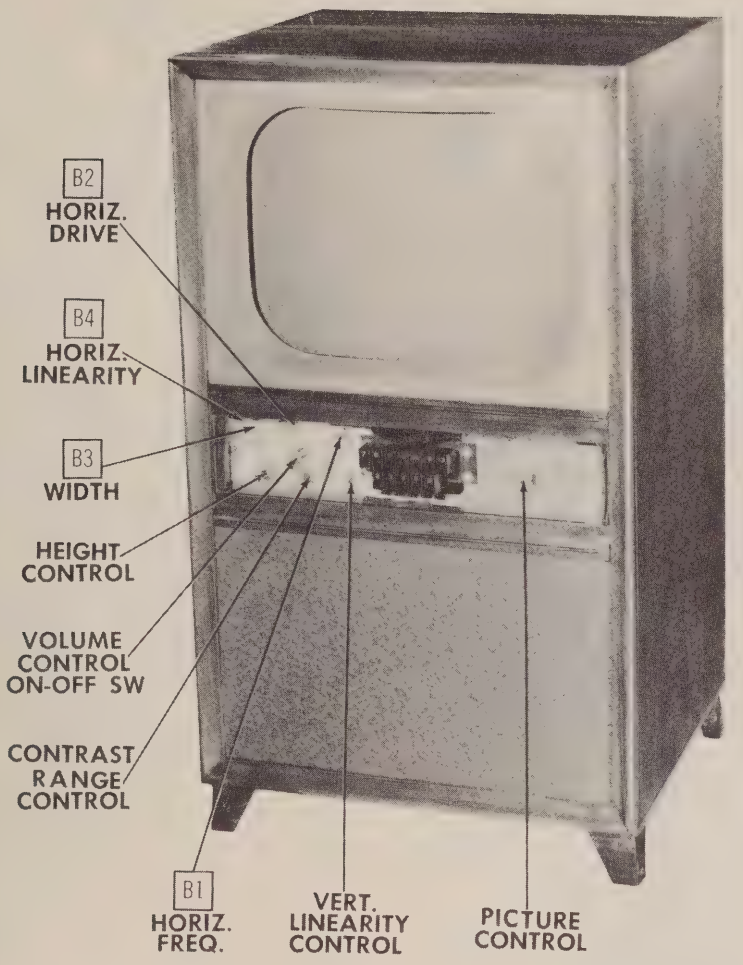
TRAV-LER
MODELS 219-8A, 219-8B (Ch. 11A2)



TRAV-LER MODEL 219-8A

TRADE NAME	Trav-Ler Models 219-8A, B. (Ch. 11A2)
MANUFACTURER	Trav-Ler Radio & Tel. Corp., 571 W. Jackson Blvd., Chicago, Ill.
TYPE SET	Television Receiver
TUBES	Twenty Four
POWER SUPPLY	110-120 Volts AC - 60 Cycle — RATING 1.65 Amp. @ 117 Volts AC
TUNING RANGE—	Channels 2 thru 13

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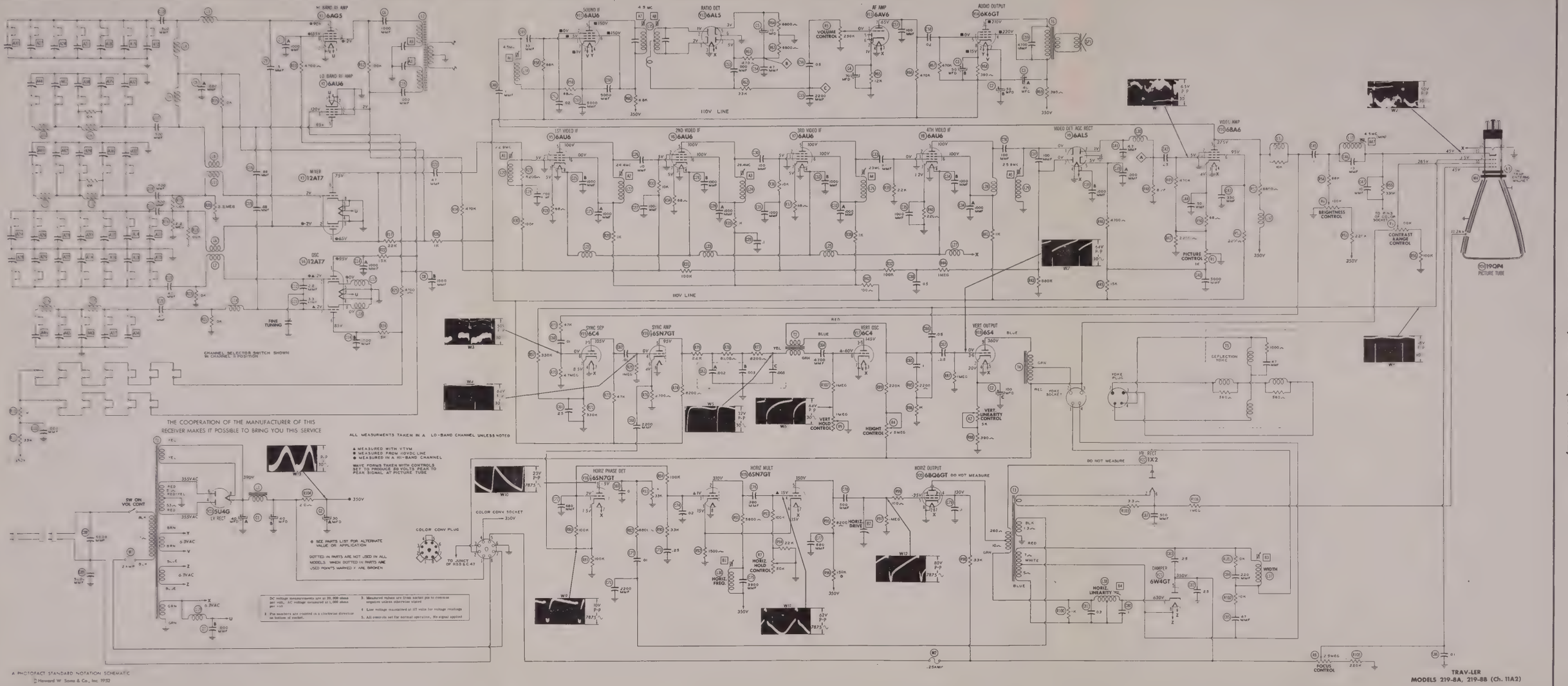
TRAV-LER
MODELS 219-8A, 219-8B (Ch. 11A2)


HI BAND RF AMP V1 6AG5
LO BAND RF AMP V2 6AU6
MIXER V3 12AT7
OSC V4 12AT7
FINE TUNING
CHANNEL SELECTOR SWITCH SHOWN IN CHANNEL 1 POSITION
SOUND IF V11 6AU6
4.5 MC
RATIO DET V13 6AL5
VOLUME CONTROL
AF AMP V13 6AV6
AUDIO OUTPUT V14 6K6GT
110V LINE
1ST VIDEO IF V5 6AU6
2ND VIDEO IF V6 6AU6
3RD VIDEO IF V7 6AU6
4TH VIDEO IF V8 6AU6
VIDEO DET AGC RECT V9 6AL5
VIDEO AMP V10 6BA6
BRIGHTNESS CONTROL
CONTRAST RANGE CONTROL
PICTURE CONTROL
V12A 19QP4 PICTURE TUBE
SYNC SEP V11 6C4
SYNC AMP V11 6SN7GT
VERT OSC V12 6C4
VERT OUTPUT V13 6S4
VERT HOLD CONTROL
HEIGHT CONTROL
VERT LINEARITY CONTROL
DEFLECTION YOKE
YOKE PLUG
YOKE SOCKET
HORIZ PHASE DET V15 6SN7GT
HORIZ MULT V15 6SN7GT
HORIZ OUTPUT V20 6BQ6GT DO NOT MEASURE
HORIZ HOLD CONTROL
HORIZ FREQ.
HORIZ DRIVE
HORIZ LINEARITY
DAMPER V21 6W4GT
HV RECT V22 1X2
WIDTH
FOCUS CONTROL
COLOR CONV SOCKET
COLOR CONV PLUG
TO JUNCT OF RSS & C 47
SW ON VOL CONT
LV RECT V16 5U4G
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE
ALL MEASUREMENTS TAKEN IN A LO-BAND CHANNEL UNLESS NOTED
▲ MEASURED WITH VTVM
■ MEASURED FROM HOT CHASSIS LINE
● MEASURED IN A HI-BAND CHANNEL
WAVE FORMS TAKEN WITH CONTROLS SET TO PRODUCE 80 VOLTS PEAK TO PEAK SIGNAL AT PICTURE TUBE
⊕ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DOTTED IN PARTS ARE NOT USED IN ALL MODELS. WHEN DOTTED IN PARTS ARE USED POINTS MARKED X ARE BROKEN
DC voltage measurements are at 20,000 ohms per volt, AC voltage measured at 1,000 ohms per volt
1 Pin numbers are counted in a clockwise direction as bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated
4. Line voltage maintained at 117 volts for voltage readings
5. All controls set for normal operation, No signal applied
A PHOTOFACT STANDARD NOTATION SCHEMATIC
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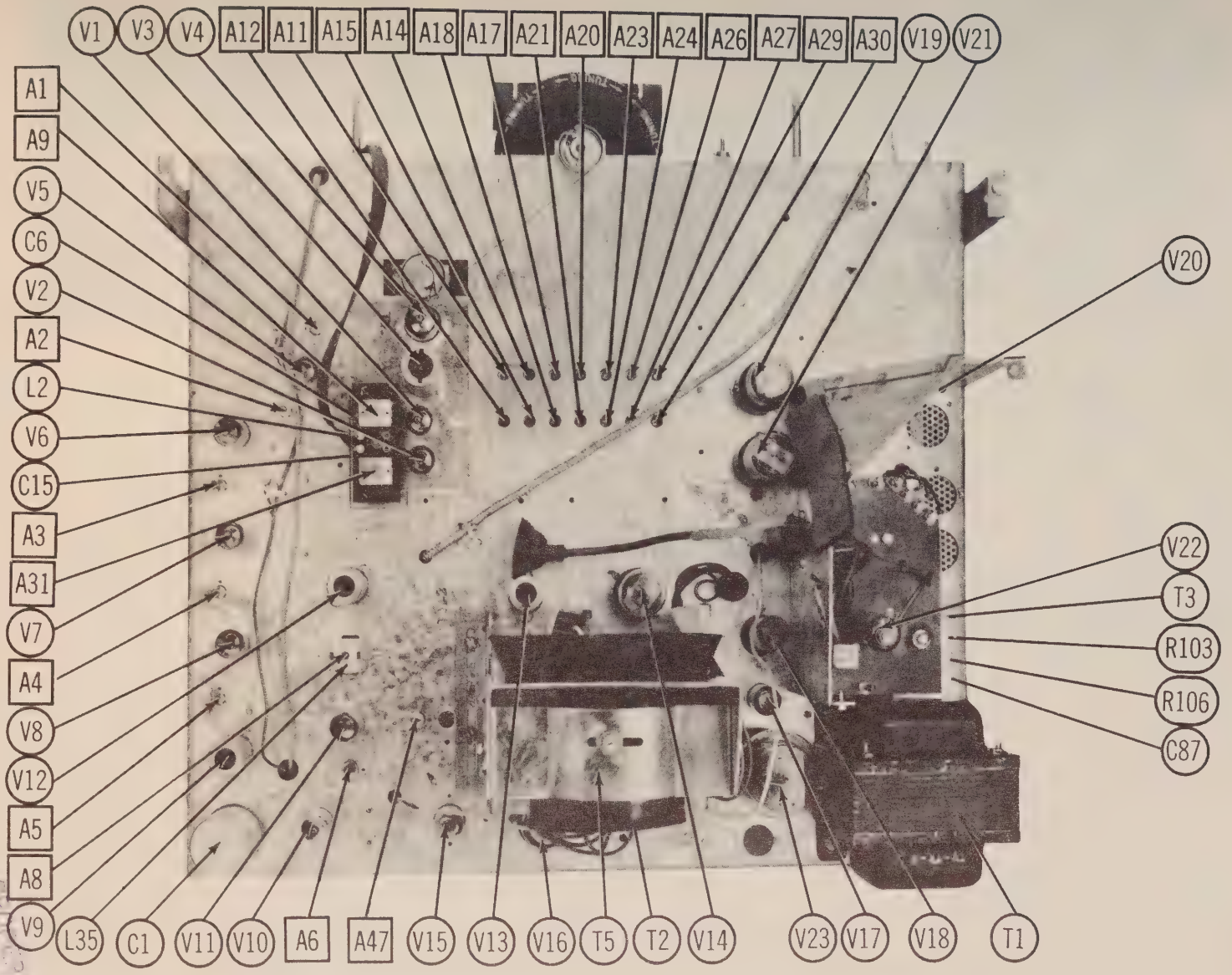
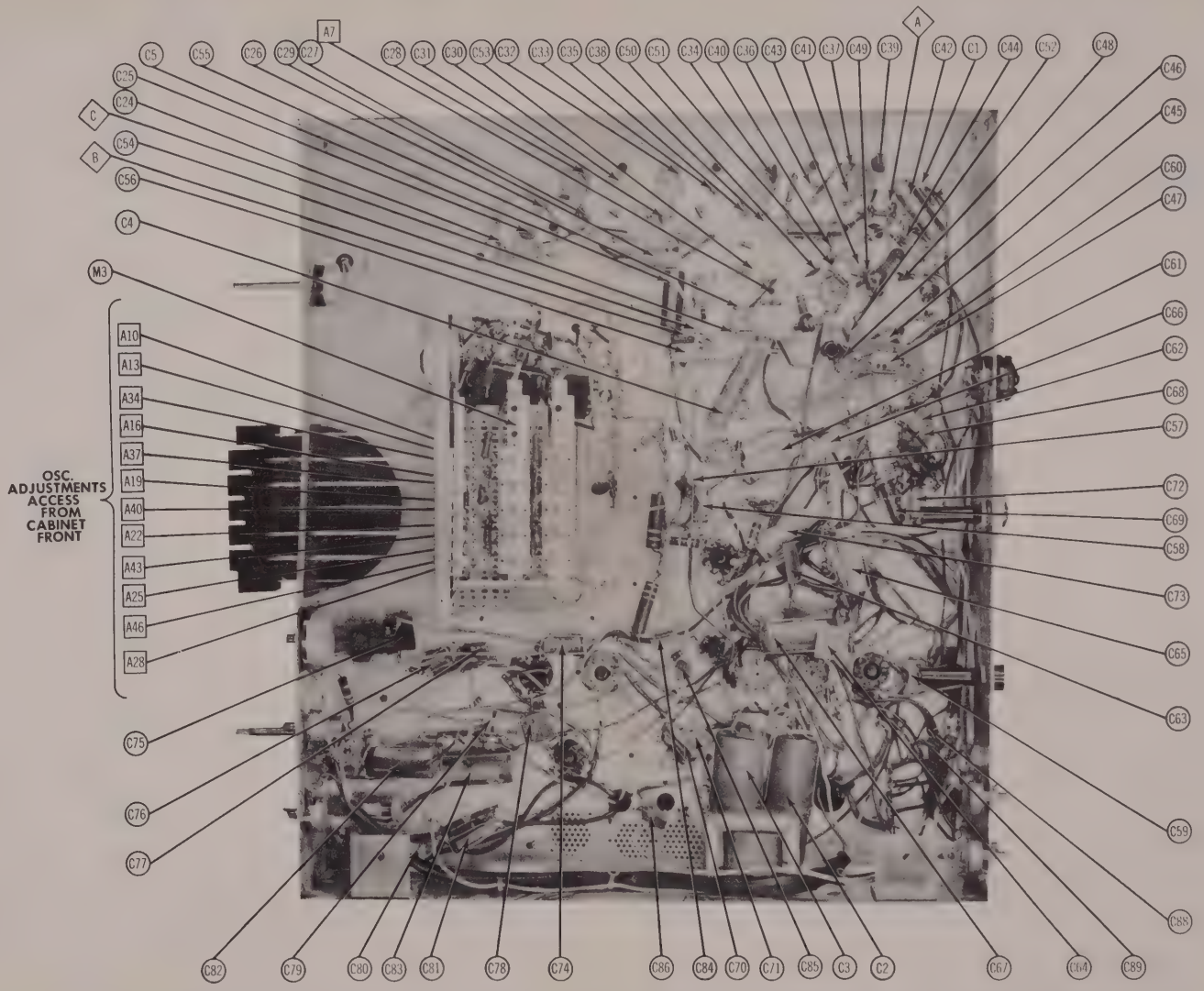
TRAV-LER
MODELS 219-8A, 219-8B (Ch. 11A2)

TRAV-LER
MODELS 219-8A, 219-8B (Ch. 11A2)



CHASSIS TOP VIEW



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

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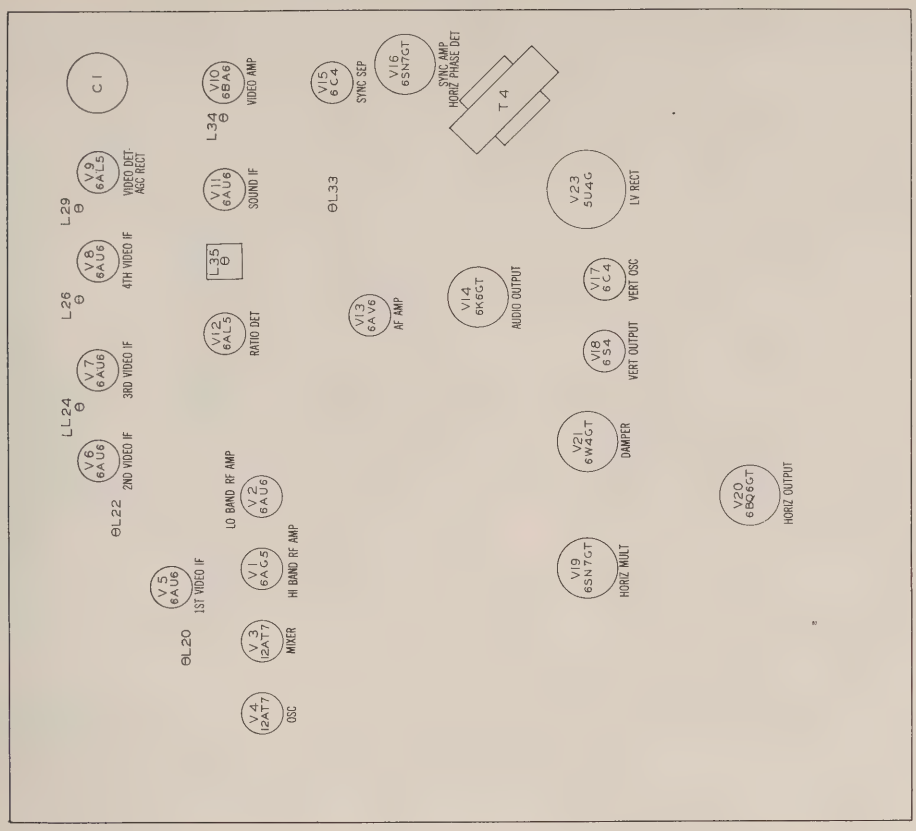
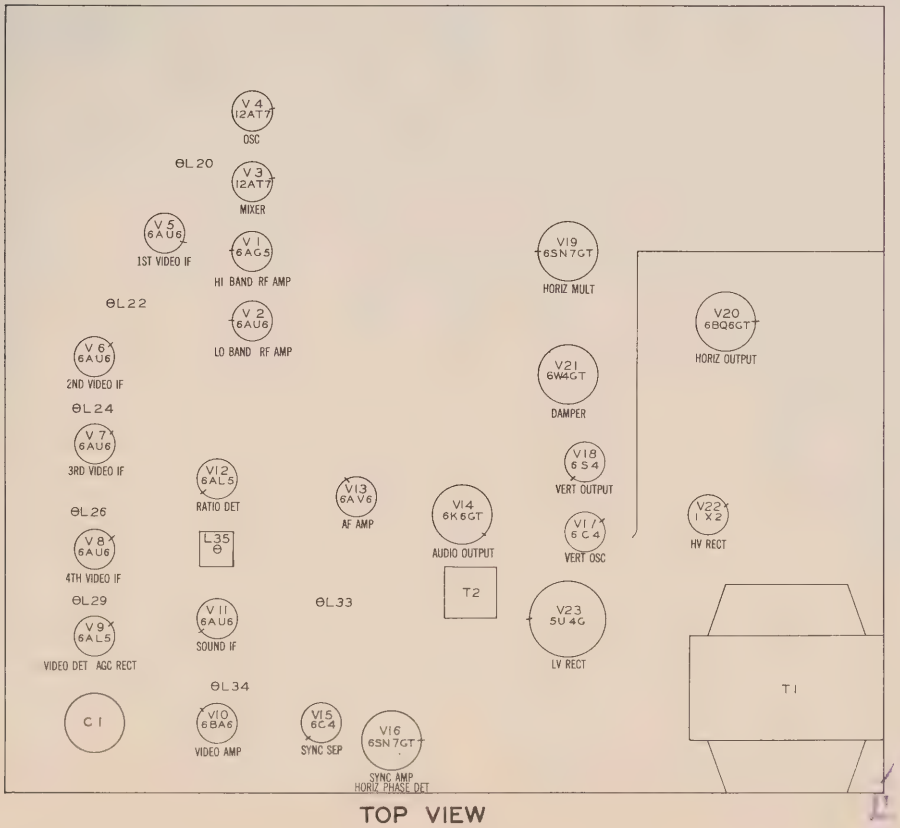


BOTTOM VIEW



TOP VIEW

TUBE PLACEMENT CHART

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator to disable the high voltage.

VIDEO IF ALIGNMENT

Remove the local oscillator tube , (V4), from its socket to prevent the possibility ot erroneous indication.
Connect the negative lead of a 3 volt battery to the junction of R30 and R31, connect the positive lead to chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over mixer tube, (V3), Low side to chassis.	22.9MC (unmod)	Any	DC probe to point (A). Common to chassis.	A1	Adjust for maximum deflection. Attenuate signal generator to maintain 2 volt reading.
2.	"	"	24.4MC	"	"	A2	"
3.	"	"	26.4MC	"	"	A3	"
4.	"	"	23MC	"	"	A4	"
5.	"	"	25.9MC	"	"	A5	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6.	Direct	High side to an ungrounded tube shield floating over mixer tube, (V3). Low side to chassis.	24MC (10MC Swp)	21.75MC 26.25MC	Any	Vert. Amp. to point (A). Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
7.	.001MFD	High side to point (A) Low side to chassis.	4.5MC (unmod)	Any channel not used locally.	DC probe to point (B). Common to chassis.	A6, A7	Adjust for maximum deflection.
8.	"	"	"	"	DC probe to point (C). Common to chassis.	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep . Use 120% sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	.001MFD	High side to point (A). Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. Amp. to point (B). Low side to chassis.	A6, A7	Disconnect stabilizor capacitor C5. Adjust for maximum amplitude and symmetry as per fig. 2.
8.	"	"	"	"	"	Vert. Amp. to point (C). Low side to chassis.	A8	Reconnect capacitor C5. Adjust A8 so 4.5 MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A7 for max. amplitude and straightness of crossover lines.

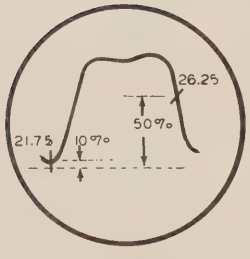


FIG.1

FIG. 2

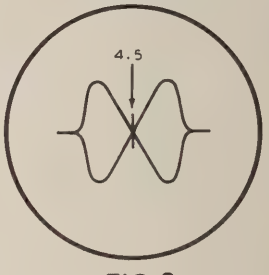


FIG. 3

ALIGNMENT INSTRUCTIONS (CONT.)

RF TUNER ALIGNMENT

Replace the local oscillator tube, (V4), in its socket.
The RF tuner portion of this receiver has been properly aligned at the factory and is very stable. Alignment should not be necessary unless they are definitely known to be out of alignment.
Leave the bias connected as during video IF alignment.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	195MC (10MC Swp)	Not used	10	Vert. Amp. to point (A). Low side to chassis.	A9	Adjust for maximum amplitude only.
10.	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13	"	A10, A11 A12	Adjust for response curve similar to Fig. 4. The video marker should be at 50% and the sound marker should be below 10%.
			207MC (10MC Swp)	205.25MC 209.75MC	12		A13, A14 A15	
			201MC (10MC Swp)	199.25MC 203.75MC	11		A16, A17 A18	
			195MC (10MC Swp)	193.25MC 197.75MC	10		A19, A20 A21	
			189MC (10MC Swp)	187.25MC 191.75MC	9		A22, A23 A24	
			183MC (10MC Swp)	181.25MC 185.75MC	8		A25, A26 A27	
			177MC (10MC Swp)	175.25MC 179.75MC	7		A28, A29 A30	
11.	"	"	69MC (10MC Swp)	Not used	4	"	A31	Adjust for maximum amplitude only.
12.	"	"	85MC (10MC Swp)	83.25MC 87.75MC	6	"	A32, A33 A34	Adjust for response curves similar to Fig. 4 with markers as shown.
			79MC (10MC Swp)	77.25MC 81.75MC	5		A35, A36 A37	
			69MC (10MC Swp)	67.25MC 71.75MC	4		A38, A39 A40	
			63MC (10MC Swp)	61.25MC 65.75MC	3		A41, A42 A43	
			57MC (10MC Swp)	55.25MC 59.75MC	2		A44, A45 A46	

4.5 MC TRAP ADJUSTMENT

After alignment is completed and set returned to original operation, connect an antenna and tune in a strong TV station.
Examine the picture for 4.5MC beat interference, (grain appearance in horizontal lines). If interference is present adjust A47 to eliminate or minimize it.

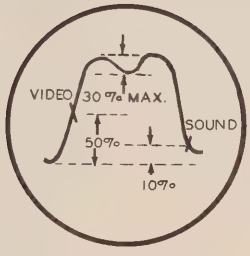
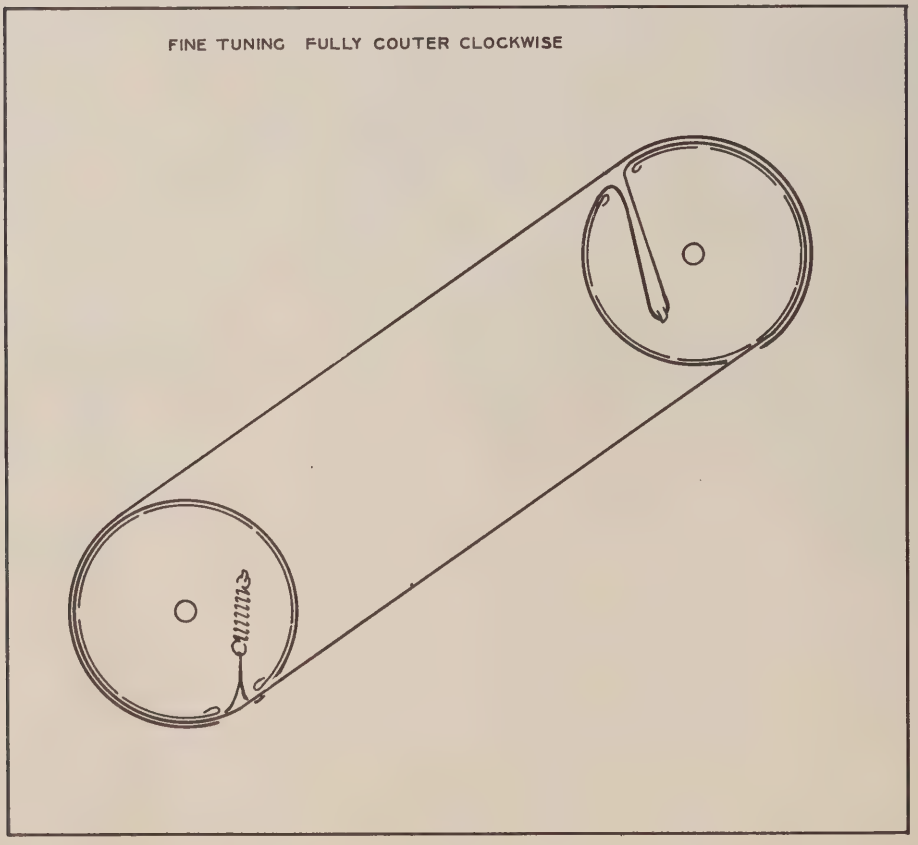


FIG.4

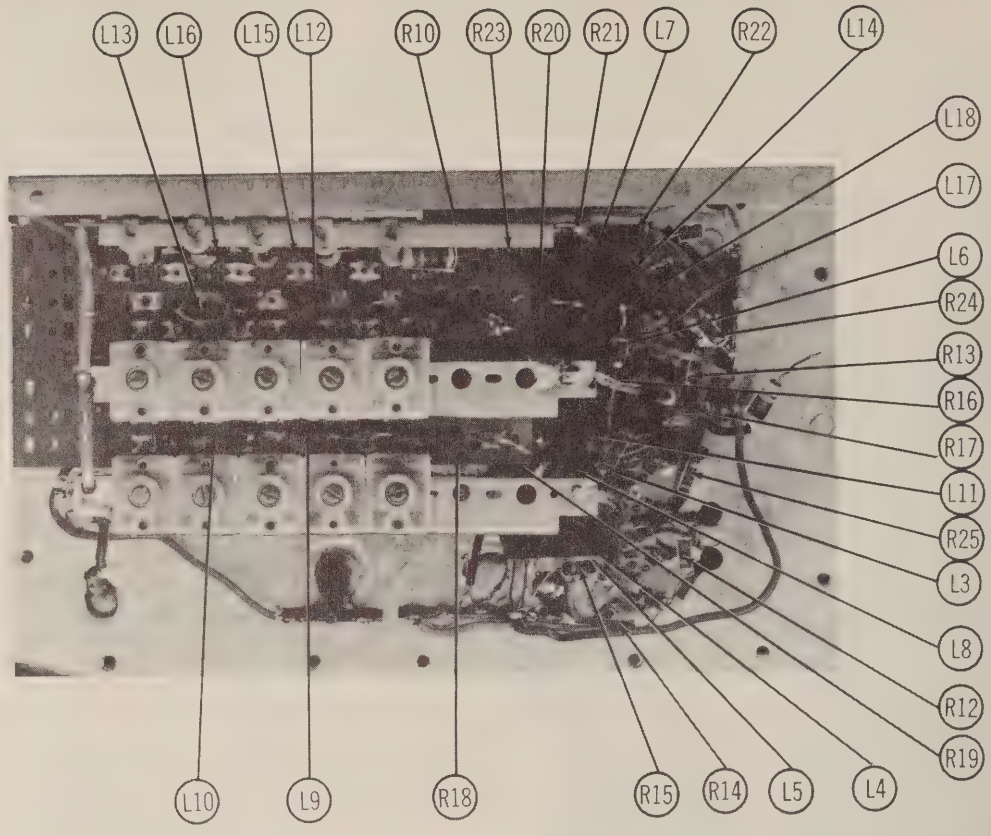
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	2.4Meg	0Ω	.1Ω	0Ω	■1KΩ	†39KΩ	0Ω		
V 2	6AU6	2.3Meg	0Ω	.1Ω	0Ω	■1KΩ	†39KΩ	0Ω		
V 3	12AT7	■23KΩ	1.1Meg	0Ω	0Ω	0Ω	■23KΩ	1.1Meg	0Ω	.1Ω
V 4	12AT7	†48KΩ	10KΩ	1.5Ω	0Ω	0Ω	†48KΩ	10KΩ	1.5Ω	.1Ω
V 5	6AU6	1.9Meg	0Ω	0Ω	.1Ω	■1.1Ω	■1.1KΩ	68Ω		
V 6	6AU6	2Meg	0Ω	0Ω	.1Ω	■1.1KΩ	■1.1KΩ	68Ω		
V 7	6AU6	2Meg	0Ω	0Ω	.1Ω	■1.1KΩ	■1.1KΩ	68Ω		
V 8	6AU6	22KΩ	0Ω	0Ω	.1Ω	■1.1KΩ	■1.1KΩ	220Ω		
V 9	6AL5	.4Ω	680KΩ	.1Ω	0Ω	5.5KΩ	0Ω	8.2KΩ		
V 10	6BA6	470KΩ	0Ω	0Ω	.1Ω	†7KΩ	■2.2KΩ	300Ω		
V 11	6AU6	■68KΩ	■0Ω	■0Ω	■.4Ω	†7KΩ	†7KΩ	■68Ω		
V 12	6AL5	INF	INF	0Ω	.1Ω	6.8KΩ	0Ω	7.2KΩ		
V 13	6AV6	100KΩ	12KΩ	.1Ω	0Ω	INF	INF	■470KΩ		
V 14	6K6GT	INF	■.4Ω	†1.1KΩ	†650Ω	■470KΩ	INF	■0Ω	■390Ω	
V 15	6C4	■47KΩ	INF	.1Ω	0Ω	■47KΩ	4.7Meg	330KΩ		
V 16	6SN7GT	200KΩ	33KΩ	100KΩ	1Meg	■8.2KΩ	2.7KΩ	.1Ω	0Ω	
V 17	6C4	†1.9Meg	INF	.1Ω	0Ω	†1.9Meg	1.6Meg	0Ω		
V 18	6S4	INF	1.7KΩ	1Meg	0Ω	.1Ω	1Meg	INF	INF	†1.1KΩ
V 19	6SN7GT	300KΩ	†5.9KΩ	1.5KΩ	110KΩ	†160KΩ	1.5KΩ	.1Ω	0Ω	
V 20	6BQ6GT	INF	0Ω	1Meg	†33KΩ	1Meg	INF	.1Ω	0Ω	TOP CAP #16Ω
V 21	6W4GT	INF	INF	INF	INF	†260Ω	INF	#7Ω	#7Ω	
V 22	1X2	PINS 1 THROUGH 9 HAVE INF RESISTANCE								TOP CAP #275Ω
V 23	5U4G	INF	60KΩ	INF	53Ω	INF	51Ω	INF	60KΩ	
V 24	19QP4	0Ω	660KΩ	PIN 10 65KΩ	PIN 11 100KΩ	PIN 12 .1Ω	PIN 6 450KΩ			

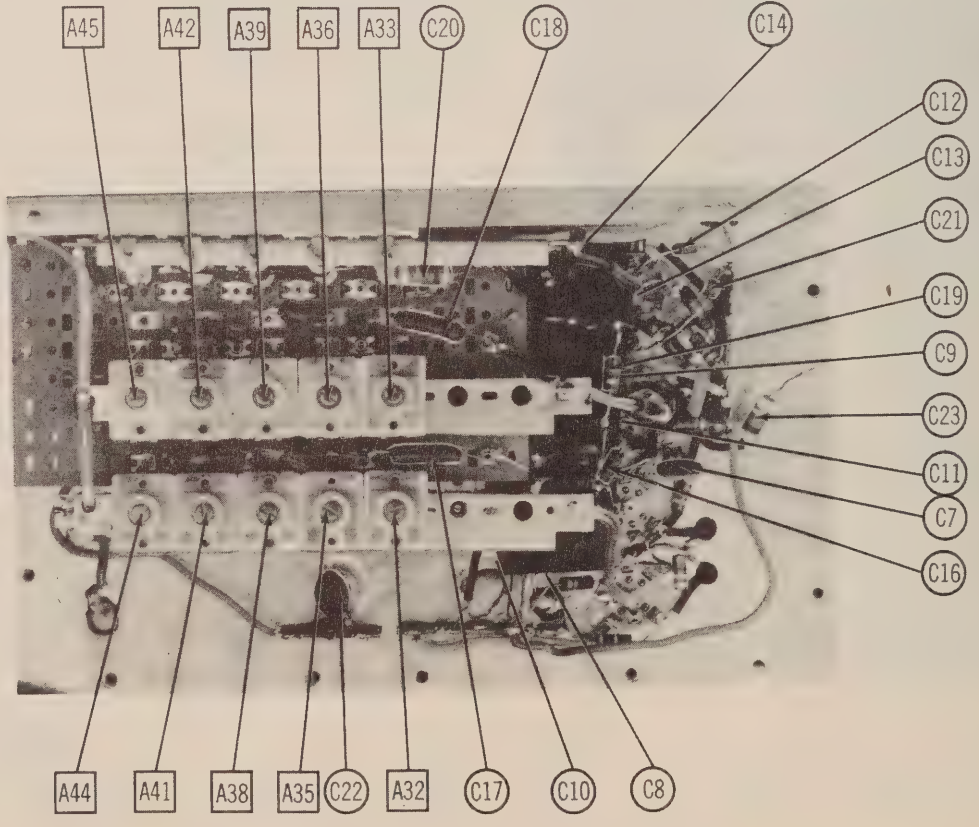
ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM PIN 2 OF V23
# MEASURED FROM PIN 3 OF V21
■ MEASURED FROM 110 VDC LINE



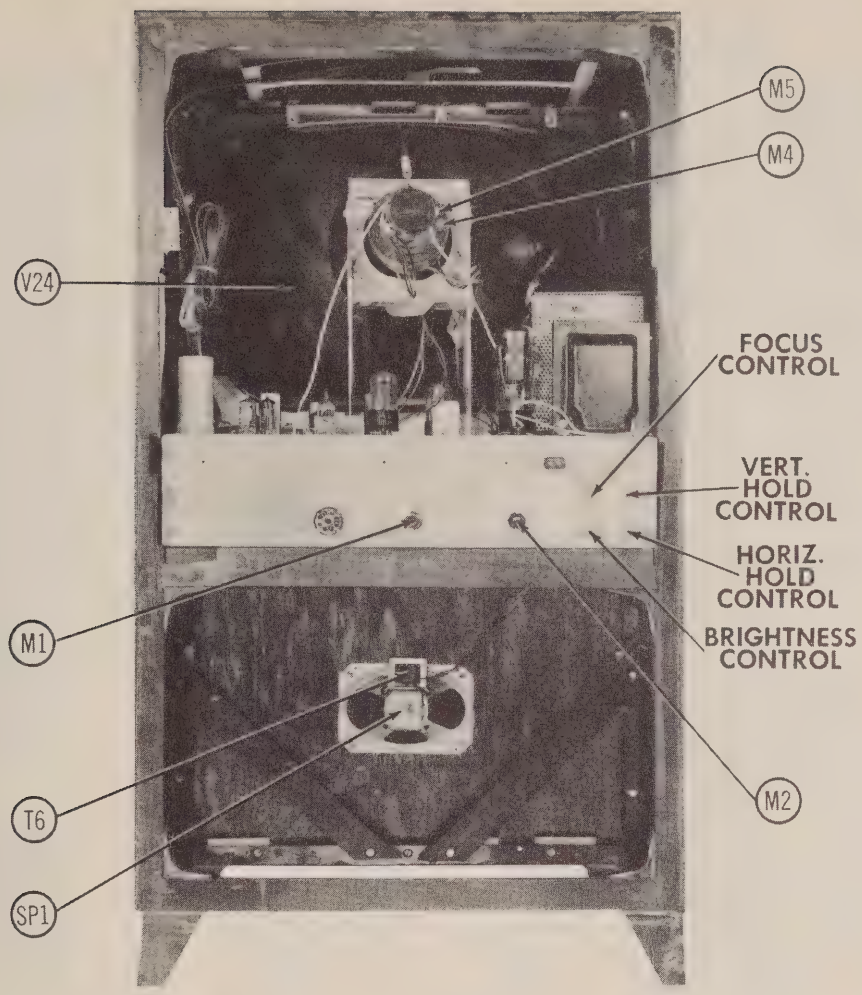
DRIVE CORD STRINGING



RF TUNER-BOTTOM VIEW



RF TUNER-BOTTOM VIEW



CABINET–REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern. Allow about 15 minutes for set to warm up.

Turn the horizontal hold control to the mid-position of its range.

Adjust the horizontal frequency slug, (B1), to the center of the range over which the picture synchronizes horizontally.

Adjust the horizontal drive trimmer, (B2), for best compromise between brightness and horizontal linearity. If bright vertical lines appear in the picture adjust B2 clockwise just enough to remove the vertical ines.

Adjust the width slug, (B3), until the picture is slightly wider than necessary to fill the mask horizontally.

Adjust the horizontal linearity slug, (B4), until the picture is symmetrical from left to right.

Since both width and horizontal linearity are effected by the drive trimmer, it may be necessary to adjust them alternately for best results.

DISASSEMBLY INSTRUCTIONS

1. Remove 2 push-on type control knobs from front panel.
2. Remove 3 wood screws from rear cover. Remove cover.
3. Remove 2 wood screws holding antenna bracket to cabinet.
4. Disconnect speaker.
5. Remove 4 chassis bolts. Remove chassis.
6. Remove 4 screws holding speaker. Remove speaker.

Note: For picture tube removal it is necessary to remove chassis as outlined above.

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No	USE	REPLACEMENT DATA: TRAV-LER PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	Hi Band IF Amp	6AG5	6AG5	7BD	
V2	Lo Band IF Amp	6AU6	6AU6	7BK	
V3	Mixer	12AT7	12AT7	9A	
V4	Osc-Inflator	12AT7	12AT7	9A	
V5	1st Video IF Amp	6AU6	6AU6	7BK	
V6	2nd Video IF Amp	6AU6	6AU6	7BK	
V7	3rd Video IF Amp	6AU6	6AU6	7BK	
V8	4th Video IF Amp.	6AU6	6AU6	7BK	
V9	Video Det.-AGC Rect.	6AL5	6AL5	6BT	
V10	Video Amplifier	6BA6	6BA6	7BK	
V11	Sound IF Amp.	6AU6	6AU6	7BK	
V12	Ratio Detector	6AL5	6AL5	6BT	
V13	AF Amplifier	6AV6	6AV6	7BT	
V14	Audio Output	6K6GT	6K6GT	7B	
V15	Sync. Separator	6C4	6C4	6BQ	
V16	Sync. Amp.-Horiz. Phase Detector	6SN7GT	6SN7GT	8BD	
V17	Vert. Oscillator	6C4	6C4	6BQ	
V18	Vert. Output	6S4	6S4	9AC	
V19	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V20	Horiz. Output	6BQ6GT	6BQ6GT	9AM	
V21	Damper	6W4GT	6W4GT	4CG	
V22	HV Rectifier	1X2	1X2	9Y	
V23	LV Rectifier	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA: Trav-Ler PART No.	REPLACEMENT DATA: SYLVANIA PART No.	REPLACEMENT DATA: THOMAS PART No.	RTMA BASE TYPE	NOTES
V24	19QP4			12C	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TRAV-LER PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CENTRALAB PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: ERIE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	450	EC-16	AFH2-57		UPT4445		TVL-2764	▲ Filter
B	40	450							▲ Filter
C2A	30	450	EC-23	PRS450/40-40		UPT300		TVL-3708	Decoupling (Red)
B	50	150		PRS25/100					Decoupling (Green)
C	100	25		PRS450/40		BR4045A		TVA-1712	Vert. Output Cathode (Blue)
C3A	40	450	EC-17	PRS450/50		BR505		TVA-1308	Audio Output Dec (Red)
B	50	50		PRS25/100		BRH121		TVA-1130	Audio Output Cathode (Green)
C4	70	10	EC-6	PRS50/10		BR105		TVA-1304	A.F Amp. Cathode
C5	10	50	EC-20	PRS50/10					Stabilizing Cap.
C6A	1000			BPD-001	DD-102		801-001	5HK-D1	RF Coupling
C7A	1000			BPD-2X001	DD-2-102		B12-001	5HK-2D1	RF Amp. Screen
B	1000								Fil. Bypass
C8A	1000			BPD-2X001	DD-2-102		B12-001	5HK-2D1	RF Amp. Plate
B	1000								RF Amp. Screen
C9	5			TCZ-.5		NP0K-R50	GP2L-152	5HK-D15	RF Coupling
C10	1500			S11500	D6-152		GP2L-152	5HK-D15	RF Coupling
C11	1500			S11500	D6-152		GP2L-152	5HK-D15	Mixer Grid Cap.
C12	2.2				TCZ-2.2		NP0K-2R2		Fixed Trimmer
C13	47			S147	D6-470		GP1K-470	5GA-Q47	Osc. Grid Cap.
C14A	1000			BPD-2X001	DD-2-102		B12-001	5HK-2D1	Osc. Plate Dec.
B	1000								Osc. Plate Dec.
C15	1000			BPD-001	DD-102		801-001	5HK-D1	RF Coupling
C16	.68				TCZ-.68		NP0K-R68		RF Coupling
C17	1500			S11500	D6-152		GP2L-152	5HK-D15	RF Coupling
C18	1500			S11500	D6-152		GP2L-152	5HK-D15	Mixer Grid Cap.
C19	.68				TCZ-.68		NP0K-R68		Osc. Coupling
C20	47			S147	D6-470		GP1K-470	5GA-Q47	Osc. Grid Cap.
C21	3.3			S13.3NP0	TCZ-3.3		NP0K-3R3		Fixed Trimmer
C22	1000			BPD-001	DD-102		801-001	5HK-D1	RF Bypass
C23	47			S147	D6-470	5W5Q5	GP1K-470	5GA-Q47	IF Coupling
C24	1000			BPD-001	DD-102	1W5D1	801-001	5HK-D1	AGC Filter
C25A	1000			BPD-2X001	DD-2-102	1W5D1	B12-001	5HK-2D1	1st Video IF Dec.
B	1000					1W5D1			1st Video IF Fil.
C26	100			S1100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C27	1000			BPD-001	DD-102	1W5D1	801-001	5HK-D1	AGC Filter
C28A	1000			BPD-2X001	DD-2-102	1W5D1	B12-001	5HK-2D1	2nd Video IF Dec.
B	1000					1W5D1			2nd Video IF Fil.
C29	.1	600		P688-1	DF-104	PTE6P1		6TM-P1	RF Bypass
C30	100			S1100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C31	1000			BPD-001	DD-102	1W5D1	801-001	5HK-D1	AGC Filter
C32A	1000			BPD-2X001	DD2-102	1W5D1	B12-001	5HK-2D1	3rd Video IF Dec.
B	1000					1W5D1			3rd Video IF Fil.
C33	100			S1100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C34A	1000			BPD-2X001	DD2-102	1W5D1	B12-001	5HK-2D1	4th Video IF Dec.
B	1000					1W5D1			4th Video IF Fil.
C35	1000			BPD-01	DD-102	1W5D1	801-001	5HK-D1	4th Video IF Cathode
C36	100			S1100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C37	100			S1100	D6-101	5W5T1	GP1K-101	5GA-T1	IF Coupling
C38	.05	400		P488-05	DF-503	PTE4B5		4TM-S5	AGC Filter
C39A	1000			BPD-2X001	DD2-102	1W5D1	B12-001	5HK-2D1	AGC Rect. Cathode
B	1000					1W5D1			Video Det. Fil.
C40	3000			BPD-005	DD-502	1D5D5	B11-005	5HK-D5	RF Bypass
C41	4.7			S14.7NP0	TCZ-4.7		NP0K-4R7		Video Det. Filter
C42	.35	200		P488-25		GT2P25		2TM-P25	Video Coupling
C43	330	500		1468-00035	D6-331		GP2K-331	1FM-335	Video Amp. Screen
C44	150			S1150	D6-151	5W5T25	GP2K-151	5GA-T15	Video Amp. Cathode
C45	.1	600		P688-1	DF-104	PTE6P1		6TM-P1	Video Coupling
C46	10	500		1468-00001	D6-100	5W5Q4	GP1K-100	MS-41	Fixed Trimmer
C47	10	500		1468-00001	D6-100	5W5Q4	GP1K-100	MS-41	Picture Tube Cathode
C48	1			1468-000001	TCZ-1		NP0K-010		Sound IF Decoupling
C49	33			S133	D6-330		GP1K-330	5GA-Q33	Sound IF Grid
C50	5000			BPD-005	DD-502	1D5D5	B11-005	5HK-D5	Sound IF Decoupling

CAPACITORS (CONT.)

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TRAV-LER PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CENTRALAB PART No.	REPLACEMENT DATA: CORNELL DUBILIER PART No.	REPLACEMENT DATA: ERIE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C51	5000			BPD-005	DD-502	1D5D5	B11-005	5HK-D5	Sound IF Cathode
C52	.02	600		P688-02	DF-203	PTE8S2		6TM-S2	RF Bypass
C53	1000			S11000	D6-102	1W5D1	GP2L-102	5HK-D1	Diode Load Cap.
C54	47			S147	D6-470	5W5Q5	GP1K-470	5GA-Q47	RF Bypass
C55	2200	500		1467-0025	D6-222	1W5D25	GP2-333-222		De-emphasis
C56	.05	400		P488-05	DF-503	PTE4B5		4TM-S5	Audio Coupling
C57	100	500		1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	AF Amp. Plate
C58	.02	600		P688-02	DF-203	PTE8S2		6TM-S2	Audio Coupling
C59	4700	500		1467-005	D6-472	1W5D1	GP2-333-472	1FM-25	Audio Output Plate
C60	.01	600		P688-01	D6-103	PTE8S1	GP2-333-103	8TM-S1	Sync. Coupling
C61	.25	200		P488-25		GT2P25		2TM-P25	Sync. Sep. Cathode
C62	.01	600		P688-01	D6-103	PTE8S1	GP2-333-103	6TM-S1	Sync. Coupling
C63A	.002			P688-002	D6-202	PTE8D2	GP2-333-202	8TM-D2	Vert. Integrator Net.
B	.005		CC-24	P688-005	D6-502	PTE8D5	GP2-333-502	8TM-D5	Vert. Integrator Net.
C	.005			P688-005	D6-502	PTE6D5	GP2-333-502	6TM-D5	Vert. Integrator Net.
C64	4700	500		1464-005		JDR5D5		MB-25	Vert. Osc. Grid Cap.
C65	.1	600		P688-1	DF-104	PTE4P1		6TM-P1	Vert. Discharge
C66	.05	400		P488-05	DF-503	PTE4B5		4TM-S5	Vert. Sweep Coupling
C67	.25	600		684-25		GP8P25		6TM-P25	Vert. Sweep Coupling
C68	2200	500		1467-0025	D6-222	1W5D25	GP2-333-222		Horiz. Sync. Coupling
C69	.01	600		P688-01	D6-103	PTE8S1	GP2-333-103	6TM-S1	Horiz. Feedback Net.
C70	.01	600		P688-01	D6-103	PTE8S1	GP2-333-103	6TM-S1	Horiz. Feedback Net.
C71	2200	500		1467-0025	D6 222	1W5D25	GP2-333-222		Voltage Divider
C72	680	500		1479-0007	D6-681	1W5T7	GP2K-681	1FM-37	Horiz. AFC Filter
C73	.25	200		P488-25		GT2P25		2TM-P25	Horiz. AFC Filter
C74	.02	600		P688-02	DF-203	PTE8S2		6TM-S2	Horiz. AFC Filter
C75	3900	500		1464-004		1DR5D4			Fixed Trimmer
C76	390	500		1460-0004		5R5T4		MS-34	Horiz. MV Feedback
C77	680	500		1479-0007		2R5T7		MS-37	Horiz. Discharge
C78	500	500		1468-0005	D6-501	5W5T25	GP2K-501	1FM-31	Horiz. Sweep Coupling
C79	.1	600		P688-1	DF-104	PTE4P1		6TM-P1	Horiz. Output Screen
C80	.1	200		P288-1	DF-104	PTE4P1		2TM-P1	Damper Filter
C81	.03	200		P488-03		PTE4S3		6TM-S3	Damper Filter
C82	.25	600		684-25		GP8P25		6TM-P25	Damper Plate Bypass
C83	.25	600		684-25		GP8P25		6TM-P25	Horiz. Sweep Coupling
C84	220	500		1468-00025		5R5T25			Fixed Trimmer
C85	47	1500							Fixed Trimmer
C86	.01	600		P688-01	D6-103	PTE8S1	GP2-333-103	6TM-S1	RF Bypass
C87	500	15000		HV20A	TV1 502		410-501	50C1	HV Filter
C88	5000			BPD-005	DD-502	1D5D5	811-005	5HK-D5	Line Filter
C89	5000			BPD-005	DD-502	1D5D5	811-005	5HK-D5	Line Filter

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRAV-LER PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	REPLACEMENT DATA: CENTRALAB PART No.	INSTALLATION NOTES
R1A	1000Ω	2	TV-VC-33	W-1000	RTV-105	SVP-993	Picture Control - Wire Wound
B	Shaft		Not Req.	Not Req.	Not Req.	Not Req.	Attach to R1A per instructions
R2	5000Ω	2	TV-VC-29	W-5000	43-5000	UK-135	Vert. Linearity Control - Wire Wound
R3A	100KΩ	½	TV-VC-32	QII-128	AG-49-S	AN-40	Contrast Range Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R3A per instructions
R4A	2.5Meg	½	TV-VC-28	QII-339	AG-84-S	AN-63	Height Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R4A per instructions
R5A	250KΩ	½	TV-VC-34	QI3-130	AG-64-Z	AN-51	Volume Control
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Attach to R5A per instructions
C	Switch		Not Req.	76-1	SWB	K-155	Attach to R5A per instructions
R6A	100KΩ	½	TV-VC-32	QII-128	AG-49-S	AN-40	Brightness Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R6A per instructions
R7A	50KΩ	½	TV-VC-31	QII-123	AG-44-S	AN-31	Horiz. Hold Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R7A per instructions
R8A	2.5Meg	½	TV-VC-28	QII-339	AG-84-S	AN-63	Focus Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R8A per instructions
R9A	1Meg	½	TV-VC-30	QII-137	AG-61-S	AN-89	Vert. Hold Control
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Attach to R9A per instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: Trav-Ler PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES: ALL RESISTORS ± 10% UNLESS OTHERWISE NOTED
R10	1000Ω 20%	1		BTS-1000	Decoupling
R11	33KΩ 20%	2			Decoupling
R12	100KΩ 20%	1			Hi Band RF Amp. Grid
R13	4700Ω			BTS-4700	Hi Band RF Amp. Screen
R14	470KΩ 20%			BTS-470K	AGC Network
R15	10KΩ				RF Amp. Plate Coil Shunt
R16	2.2Meg 20%			BTS-2.2Meg	Mixer Grid
R17	22KΩ				Mixer Plate
R18	100KΩ				Series Test Point
R19	100KΩ				Series Test Point
R20	2.2Meg 20%			BTS-2.2Meg	Mixer Grid
R21	10KΩ				Osc. Grid
R22	15KΩ 20%				Osc. Plate
R23	10KΩ				Osc. Grid
R24	15KΩ				Osc. Plate
R25	4700Ω			BTS-4700	Low Band RF Amp. Screen
R26	1000Ω 20%			BTS-1000	Decoupling
R27	8200Ω				1st Video IF Coil Shunt
R28	68Ω				1st Video IF Amp. Cathode
R29	1000Ω			BTS-1000	1st Video IF Amp. Decoupling
R30	100KΩ			BTS-100K	AGC Network
R31	100KΩ			BTS-100K	AGC Network
R32	100KΩ			BTS-100K	AGC Network
R33	10KΩ				2nd Video IF Amp. Grid
R34	68Ω				2nd Video IF Amp. Cathode
R35	1000Ω 20%			BTS-1000	2nd Video IF Amp. Decoupling
R36	10KΩ				3rd Video IF Amp. Grid
R37	68Ω				3rd Video IF Amp. Cathode
R38	1000Ω 20%			BTS-1000Ω	3rd Video IF Amp. Decoupling
R39	22KΩ				4th Video IF Amp. Grid
R40	220Ω			BTS-220	4th Video IF Amp. Cathode
R41	1000Ω 20%			BTS-1000	4th Video IF Amp. Decoupling
R42	100Ω 30%			BTS-100	Decoupling
R43	680KΩ			BTS-680K	AGC Diode Load
R44	1Meg 20%			BTS-1Meg	AGC Network

RESISTORS (CONT.)

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRAV-LER PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
R45	15KΩ 20%	2			Voltage Divider
R46	4700Ω	1		BTS 4700	AGC Network
R47	2200Ω	1		BTS-2200	Voltage Divider
R48	8.2KΩ	1		BTS 8.2K	Video Det. Diode Load
R49	470KΩ 20%	1		BTS-470K	Video Amp. Grid
R50	68Ω 20%	1			Video Amp. Cathode
R51	2200Ω	1		BTS-2200	Video Amp. Screen
R52	6800Ω	5			1 3/4A-7000 Video Amp. Plate - Wire Wound
R53	220KΩ	1		BTS-220K	Voltage Divider
R54	68KΩ	1		BTS-68K	Picture Tube Cathode
R55	330KΩ	1		BTS-330K	Picture Tube Cathode
R56	100KΩ	1		BTS-100K	Voltage Divider
R57	330KΩ	1		BTS-330K	Picture Tube Grid
R58	68KΩ	1			Sound IF Amp. Grid
R59	68Ω 20%	1			Sound IF Amp. Cathode
R60	6.8KΩ	1			Bound IF Amp. Decoupling
R61	470Ω	1			Balancing
R62	33KΩ	1			De-emphasis
R63	6800Ω	1		BTS-6800	Ratio Det. Diode Load
R64	6800Ω	1		BTS-6800	Ratio Det. Diode Load
R65	12KΩ	1		BTS-12K	AF Amp. Cathode
R66	470KΩ 20%	1		BTS-470K	AF Amp. Plate
R67	470KΩ 20%	1		BTS-470K	Output Grid
R68	390Ω	1		BTA-390	Output Cathode
R69	390Ω	1		BTA-390	Output Plate Decoupling
R70	4.7Meg 20%	1		BTS-4.7Meg	Sync. Sep. Grid
R71	330KΩ	1		BTS-330K	Sync. Sep. Cathode
R72	47KΩ	1		BTS-47K	Sync. Sep. Plate
R73	47KΩ	1		BTS-47K	Isolation
R74	8200Ω	1		BTS-8200	Sync. Amp. Plate
R75	1Meg 20%	1		BTS-1Meg	Sync. Amp. Grid
R76	2700Ω	1		BTS-2700	Sync. Amp. Cathode
R77	8200Ω	1		BTS-8200	Integrator Network
R78	8200Ω	1		BTS-8200	Integrator Network
R79	22KΩ	1		BTS-22K	Integrator Network
R80	100KΩ	1		BTS-100K	Horiz. Phase Det. Grid
R81	100KΩ	1		BTS-100 K	Horiz. Phase Det. Cathode
R82	6800Ω	1		BTA-6800	Horiz. AFC Feedback
R83	33KΩ	1		BTS-33K	Horiz AFC Diode Load
R84	100KΩ	1		BTS-100K	Horiz. AFC Filter
R85	2200Ω	1		BTS-2200	Vert. Blanking Network
R86	10000Ω 20%	5		BTS-1000	Vert. Blanking Network
R87	1Meg 20%	1		BTS-1Meg	Vert. Output Grid
R88	390Ω	1		BTA-390	Vert. Output Cathode
R89	220KΩ	1		BTS-220K	Voltage Divider
R90	33KΩ	1		BTS-33K	Horiz. AFC Filter
R91	5600Ω	1		BTS-5600	Horiz. MV Plate
R92	1500Ω	1		BTS-1500	Horiz. MV Cathode
R93	100KΩ	1		BTS-100K	Horiz MV Grid
R94	22KΩ	1		BTS-22K	Horiz. Hold Control Shunt
R95	8200Ω	1		BTS-8200	Horiz. MV Plate
R96	150KΩ	1		BTS-150K	Horiz. MV Plate Dec. See note 1
R97	1Meg 20%	1		BTS-1Meg	Horiz. Output Grid
R98	33KΩ	2		BTS-33K	Horiz. Output Screen
R99	1000 20%	5			Parasitic Suppressor
R100	1000Ω	1		BTA-1000	Horiz. Linearity Coil Shunt
R101	10KΩ	1		BTA-10K	Damping
R102	10KΩ	1		BTS-10K	Damping
R103	3.3Ω 5%	2			HV Rectifier Filament
R104	2100Ω	1		1 3/4A-200	LV Filter - Wire Wound
R105	220KΩ	1		BTS-220K	Voltage Divider
R106	1Meg 20%	1			HV Filter
R107	1Meg 20%	1		BTS-1Meg	Vert. Osc. Grid

Note 1. Some models use a 100KΩ resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: Trav-Ler PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No	REPLACEMENT DATA: CHICAGO PART No.
T1	117VAC @ 1.85A	740VCT .170ADC	5VAC @ 3A Sec. 4	6.3VAC @ 7.5A Sec. 5				
			6.3VAC @ .7A	6.3VAC @ 1.2A				

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING: DC RESISTANCE PRI.	RATING: DC RESISTANCE SEC.	REPLACEMENT DATA: Trav-Ler PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: MERIT PART No.	REPLACEMENT DATA: CHICAGO PART No.	NOTES
T2	215Ω	1250Ω		A-8122	A-4003	TBO-2	Vert. Oscillator Trans
T3	270Ω	12Ω					Horiz. Output Trans.
	Tapped @ 10Ω	Tapped @ 5Ω					
		Sec. 2 1.3Ω					
		Sec. 3 .01Ω					
T4	1070Ω			A-8123	A-3037		Vert. Output Trans.
	Tapped @ 12.5Ω						
T5A	13Ω			DY-8	MFD-70		Horiz. Deflection Coils
B	44Ω						Vert. Deflection Coils

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PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		Trav-Ler PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T6	6.5KΩ	3.4Ω	450Ω	.5Ω		A-3856 ②	A-2931 ②	RO-13 ②	② Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	Trav-Ler PART No.	VIKING PART No.	QUAM PART No.	
SP1A	P.M.	3.4Ω		46J6	46A1	
	CONE DIA.	V. C. DIA.				
SP1B	4" X 6"	9/16"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	Trav-Ler PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.170ADC	50Ω	1.5HY		A-2325 ③	C-2974	TR-4200 ③	③ Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	TRAVLER PART No.	MERIT PART No.	
L2	Ant. Coil	.2Ω	.1Ω			
L3	RF Coil	.1Ω				High Band
L4	RF Choke	1.4Ω				
L5	RF Choke	2.8Ω				
L6	Mixer Grid	0Ω				
L7	Osc. Coil	0Ω				
L8	RF Coil	.2Ω				Low Band
L9	RF Coil	.1Ω				Low Band Wound on 10KΩ Resistor
L10	RF Coil	.1Ω				Low Band
L11	Mixer Grid	.1Ω				Low Band
L12	Mixer Grid	.1Ω				Low Band Wound on 10KΩ Resistor
L13	Mixer Grid	.1Ω				Low Band
L14	Osc. Coil	.1Ω				Low Band
L15	Osc. Coil	.1Ω				Low Band
L16	Osc. Coil	.1Ω				Low Band
L17	Cath. Choke	1.4Ω				
L18	Cath. Choke	1.4Ω				
L19	Fil. Choke	0Ω				
L20	1st. Video IF	.3Ω		TV-L-13	TV-112	
L21	Fil. Choke	0Ω				
L22	2nd. Video IF	.3Ω		TV-L-13	TV-112	
L23	Fil. Choke	0Ω				
L24	3rd. Video IF	.3Ω		TV-L-13	TV-112	
L25	Fil. Choke	0Ω				
L26	4th. Video IF	.3Ω		TV-L-13	TV-112	
L27	Fil. Choke	0Ω				
L28	RF Choke	3Ω				
L29	5th. Video IF	.3Ω		TV-L-13	TV-112	
L30	Peaking Coil	3.9Ω		TV-L-14	TV-181	
L31	Peaking Coil	6Ω		TV-L-31	TV-181	Wound on 10KΩ Resistor
L32	Peaking Coil	12Ω				
L33	4.5MC Trap	1.6Ω		TV-L-16	TV-151	
L34	Sound IF	1.6Ω		TV-L-16A	TV-151	
L35	Ratio Det. Trans.	4Ω	2.1Ω	TV-L-17		Tap at 1.9Ω
L36	Horiz. Osc.	78Ω		TV-L-18	TV-163	
L37	Width Coil	6.5Ω			MWC-2	
L38	Horiz. Lin.	6.7Ω				Tap at 2Ω

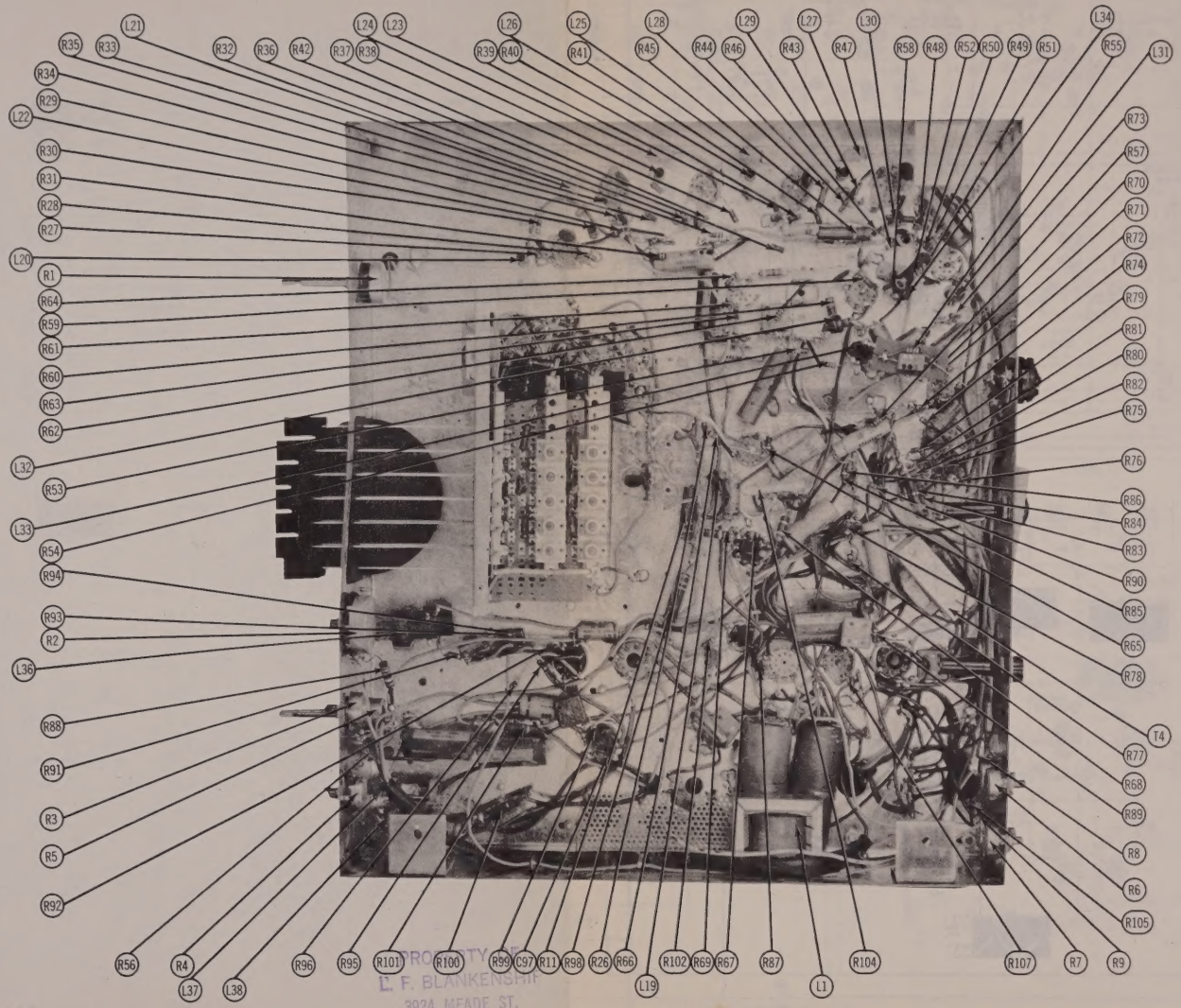
① Parallel with 10K Resistor

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			Trav-Ler PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG Slo-Blo	2A-125V			313002	341001	
M2	3AG Slo-Blo	1/4A-125V			313.250	341001	

MISCELLANEOUS

ITEM No.	PART NAME	TRAVLER PART No.	NOTES
M3	RF Tuner	TV-TA-2	
M4	Centering Magnet		
M5	Ion Trap		
B2	Trimmer	TV-TC-11	Horiz. Drive



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

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